Moving beyond Boundaries: Fremont and Anasazi Archaeology and Rock Art in Southeastern Utah

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ABSTRACT

Southeastern Utah was occupied by groups for whom movement, abandonment, and resettlement was a way of life. Although the Fremont and the Anasazi are often conceptualized as distinct cultural traditions, underlying similarities in lifeways are embodied in their use and conception of the landscape in the Moab area. The Colorado River is often used to demarcate the boundary between the Fremont and the Anasazi. Generally, Fremont rock art styles and sites are located north of the Colorado River, while Anasazi rock art styles and sites are south of the Colorado River. The distribution of Anasazi and Fremont sites, ceramics, and rock art imagery indicate social interaction and a fluctuating border as people, pots, and rock art imagery moved across this frontier. Rock art, in conjunction with other lines of archaeological evidence, provides a unique opportunity to explore the dynamic relationships among communities.

The archaeology around Moab and south into San Juan County indicates that the strongest source of Ancestral Puebloan influence was from people of Mesa Verde heritage, a result of migration into southeastern Utah. In contrast to this pattern, there is a high frequency of Fremont or Fremont-like rock art. I propose that the stylistic expressions found in rock art are a result of cultural transmission where some cultural variants were preferentially adopted over others and in turn symbolically displayed in rock art.
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CHAPTER 1: INTRODUCTION

The most compelling story of rock art is a uniquely human one about who the people were that created these images and why. Rock art is the manifestation of behavior through the purposeful manipulation of rock surfaces in order to make images. Although rock art is an abundant archaeological resource, it is rarely treated to its full analytical potential. The imagery provide vantages into the cultural systems of past populations, similar to other aspects of the archaeological record. Rock art used in conjunction with other artifacts provides insight into population dispersals, cultural interactions, and, perhaps, the cosmology of past peoples. Answers as to who, why, and when rock art was created continue to be the subject of considerable debate in Great Basin and Colorado Plateau research.

The purpose of this thesis is to explore the nature of interaction between Fremont and Anasazi groups in southeastern Utah through a comprehensive examination of rock art in archaeological context. The distribution of Anasazi and Fremont sites, ceramics, and rock art imagery indicate some level of interaction suggesting a fluid frontier, through which people, pots, and rock art imagery crossed. I focus on four subareas in southern Utah—Indian Creek, Sevenmile Canyon, the Portal Area, and the Mill Creek Area—to identify patterns of association and temporal placement in the archaeological assemblages and rock art imagery (Figure 1.1). I use these data to examine the situational nature of ethnic boundaries between these cultural traditions, as the Fremont and the Anasazi are often conceptualized as distinct entities. I propose that the stylistic expressions found in rock art are a result of cultural transmission where some cultural
variants were preferentially adopted over others and in turn symbolically displayed in rock art. This perspective leads to a more nuanced understanding of the behavioral choices behind stylistic variation.

Southeastern Utah was occupied by groups for whom movement, abandonment, and resettlement was a way of life. Although the Fremont and the Anasazi are often conceptualized as distinct cultural traditions, underlying similarities in lifeways are embodied in their use and conception of the landscape in the Moab area. Typically, the

Figure 1.1. Selected Areas.
Colorado River is used to demarcate the boundary between the Fremont and the Anasazi. Generally, Fremont rock art styles and sites are located north of the Colorado River, while Anasazi rock art styles and sites are south of the Colorado River. The distribution of Anasazi and Fremont sites, ceramics, and rock art imagery indicate social interaction and a fluctuating border as people, pots, and rock art imagery moved across this frontier.

Although there were differences among families, languages, and ethnicities, there were also underlying similarities in worldview and iconography for the Anasazi and the Fremont. People moved often during their lives; hamlets and villages were abandoned often as new ones were built and old ones were reoccupied. At times, groups migrated over long distances using established kinship and social networks as their vista into new places. Connections among diverse communities are suggested by the flow of material culture and ideas. Rock art, in conjunction with other lines of archaeological evidence, provides a unique opportunity to explore the dynamic relationships among communities.

**What is Rock Art?**

Rock art occurs worldwide in almost every type of environment where suitable rock surfaces are available. It can be portable (e.g., small-incised stones) or non-portable (e.g., cliff faces). There are two main types of rock art: petroglyphs and pictographs. *Petroglyphs* are created by the removal of a portion of the outer surface of the rock. Techniques used in removing rock surfaces include: pecking, grinding, incising, abrading, or scratching (Cole 1990; Hartley 1992; Schaafsma 1986; Weaver 1984). *Pictographs* are images that are painted or drawn in one or more colors with mineral and/or plant pigments on the surface of rock (Cole 1990; Hartley 1992; Schaafsma 1986;
Weaver 1984). Mineral pigments (e.g., hematite) were obtained from surrounding soils and clays (Cole 1990) and plant pigments were taken from local plants (e.g., sunflowers) and binders such as eggs, plant juice, urine, fats, and blood were used (Grant et al. 1968; Keyser and Klassen 2001; Schaafsma 1986).

A third, less recognized category of rock art types is *Combination*, which are images that combine techniques and methods from petroglyphs and pictographs. Some combined images were initially designed as such while other images were later modified into combinations. Combination has not been a focus of research and is often under-recognized during documentation; noteworthy exceptions include Beckwith (1931) and Cole (2004).

**The Archaeology of the Moab Area**

The archaeology of southeastern Utah suggests influences from Fremont, Uncompahgre, and Mesa Verde and Kayenta Puebloan traditions. Peoples representing the Anasazi tradition, also referred to as Ancestral Puebloans, inhabited the area south of the Fremont homeland. In southeastern Utah, the Anasazi tradition appears from approximately 500 B.C. to A.D. 1300. There are three Anasazi regions or branches that border the Fremont area: Virgin, Kayenta, and Mesa Verde. The Fremont predominated in the Colorado Plateau from approximately A.D. 400 and begin to disappear from the archaeological record around A.D. 1250. Archaeologists (e.g., Geib 1996; Madsen 1982; Madsen and Simms 1998) and rock art specialists (e.g., Castleton 1978, 1979; Cole 1990, 1992a; Schaafsma 1971, 1980) recognize interconnecting threads between the Anasazi and the Fremont.
The Moab area displays indigenous roots, Archaic influence, and the mingling of the later farming traditions of the Fremont and the Anasazi. The archaeology around Moab and south into San Juan County indicates that the strongest source of Ancestral Puebloan influence was from people of Mesa Verde heritage, a result of migration into southeastern Utah (Horn et al. 1994; Lindsay 1976; Neal and Simms 2008; Pierson 1981; Sharrock 1966; Thompson 1979). In contrast to this pattern, there is a high frequency of Fremont or Fremont-like rock art.

**Explaining the Paradox**

Why is there a high frequency of Fremont rock art (i.e., San Rafael Style) in an area with an overwhelming signature of Mesa Verde Anasazi during late Pueblo II to early Pueblo III times? These dichotomous indicators become even clearer in Indian Creek (Chapter 7), which is south of the widely recognized frontier between the Fremont and Anasazi. For this paradoxical situation there are two main explanations: wholesale borrowing and alternating/simultaneous occupation. Each of these accounts hinge on some level of interaction and hence, knowledge of Fremont groups.

Sharrock (1966) and Noxon and Marcus (1985) argue that Fremont imagery was borrowed wholesale by the Anasazi. This position is based on the very low frequencies of Fremont associated cultural materials. In addition, Sharrock (1966) posits that the lack of Fremont ground stone (i.e., Utah-type metate) indicates a lack of in-migrating Fremont females; however, a Utah-type metate has been found in an adjacent canyon (Davis 1975). Sharrock proposes that the low levels of Fremont material culture are attributable to very low frequencies of in-migration by Fremont males.
Alternatively, Marwitt (1970) proposes a parsimonious explanation of alternating and/or simultaneous occupation. In this scenario, mobile Fremont hunting groups used the same favorable places before and/or during Anasazi occupation. Hence, Fremont groups would have been the creators of the rock art imagery in question. Although Marwitt does not elaborate on this concept further, it deserves supplementary consideration. Mobile hunter/gatherer groups (i.e., Fremont) leave a considerably lighter archaeological signature than more sedentary groups with a focus on farming (i.e., Mesa Verde Anasazi). The more intensive use of place of a farming lifestyle is then reflected in the high archaeological signature of late Pueblo II to early Pueblo III Mesa Verde Anasazi.

Wholesale borrowing and alternating/simultaneous occupation shares a level of admixture for Fremont and Anasazi groups. As previously mentioned, Cole (1990:166) posits that some degree of interaction of the Canyonlands Anasazi with Fremont groups, may explain the emphasis on anthropomorphic forms that are stylistically similar to San Rafael types. She finds that Fremont symbolism had a strong influence on late Canyonlands Anasazi art and a lesser degree of influence for groups in the northern San Juan area during the late Pueblo II-III times. Schaafsma (2008) calls for thinking “outside the box” as this may represent a fusion of Fremont and Anasazi practices.

Additional explanations have also been proposed for the variation/admixture of Fremont and Anasazi groups on a regional scale. The Gateway Tradition is a proposed culture unit centered in Grand County and the northern portion of San Juan County in Utah and west-central Colorado, dated between 500 B.C. and A.D. 1250. It is argued to be defined by the following attributes: limited reliance on corn, small arrow points,
acquisition of small quantities of Anasazi and Fremont ceramics through trade, lack of ceramic production, circular masonry structures with low walls, pithouses, short-term use of habitations, granaries and cists in rockshelters, and rock art with Anasazi and Fremont influence (Horn et al. 1994).

Pierson (1981) defined two regional variants for the area the LaSal Mountain Anasazi and the Abajo Mountain Anasazi. The Abajo Mountain Anasazi are a typical Pueblo pattern of small and medium sized masonry villages with outlying farms and storage areas with a marked increase in population during Pueblo II times. The presence of “so-called Fremont types” of rock art are explained as a representation of a local cult as a result of contact with their Fremont neighbors to the north and northwest. The LaSal Mountain Anasazi are a non-typical pattern of sparse periphery populations that had some contact with a cultural core through trade.

Neither the proposed Gateway Tradition nor the LaSal or Abajo Mountain Anasazi have advanced research into the interactions of past populations of southeastern Utah. In both the Gateway (Horn et al. 1994) and LaSal or Abajo Anasazi (Pierson 1981) emphasis is placed on classification schemes rather than understanding what the human behavioral variation may be telling us about the nature of interaction.

**Research Focus**

Cultural transmission—the process of acquiring behaviors, attitudes, or technologies, serves as the primary theoretical perspective for this study. Research approaches through cultural transmission theory address relationships among artifacts in order to make predictions regarding how the different types of transmission are
observable in patterns of behavioral variation. The focus is the way in which traits vary and co-vary among each other as the result of the processes of interaction between and within cultures. I propose that rock art imagery and styles can also be examined in this way.

Style is considered to be a patterned variation in material culture. This variation can be a transmitter of information to others about personal and social relationships (e.g., Wiessner 1983; Wobst 1977). The concept of style is a way of dealing with material variation, in archaeological contexts it is used as a means of identifying possible social boundaries. Adherents of a particular group may signal their alignment, or lack of alignment with a group through choices in material styles, which can reflect distinctive ethnic or other socially defined groups. An ethnic group is generally considered to be a group whose members identify with each other, have a shared heritage, and similar worldview.

In this thesis, I use archaeological materials associated with rock art sites to explore the nature of interaction between Fremont and Anasazi groups in southeastern Utah. The Abajo-La Sal Style is proposed to be a local development that arose out of Fremont and Anasazi interaction. This rock art style, if it is reflective of Fremont and Anasazi directly speaks to the central goal of this thesis. The association of rock art styles to each other, that is, what types occur with other types is not often addressed, nor have archaeological site attributes and rock art styles. This last question establishes the archaeological context for the rock art sites in comparison to the rock art classification schemes. I pose three interrelated questions to address this:
**Question 1:** Is the Abajo-La Sal Style associated with dated archaeological assemblages that indicate a possible temporal placement?

**Question 2:** What are the relationships among rock art styles at these sites, and do they spatially associate with archaeological site attributes?

**Question 3:** Do the presumed date ranges of rock art styles match with the dates of associated archaeological assemblages?

These research questions set the stage for an examination into the interplay of style and the stylistic found in material assemblages and rock art in southeastern Utah through a cultural transmission perspective.

**Organization of Thesis**

The current chapter provides an introduction of the topic and a brief overview of the research goals. Chapter 2 provides an overview of Fremont, Basketmaker, and Anasazi cultural traditions. I also review several well-known sites, which illustrate Fremont and Anasazi interaction across a social landscape and underscore the limitations of our classification schemes and terminology. Chapter 3 describes the representational rock art styles in southeastern Utah and the methods for determining the age and cultural affiliation of rock art sites. I propose that a systematic approach incorporating data from associated artifacts would advance rock art research. Chapter 4 reviews the major theoretical approaches to rock art studies and explores two exemplary case studies that
mark a significant shift in rock art studies. Chapter 5 introduces cultural transmission theory, the theoretical approach underlying this thesis. Chapter 6 details the analytical and data collection methods. Chapters 7 through 11, turn to the archaeology and rock art of Indian Creek (Chapter 7), Sevenmile Canyon (Chapter 8), the Portal Area (Chapter 9), and the Mill Creek Area (Chapter 10) drawing on specific sites. Chapter 11 integrates the data from each of the sub-areas in the framework of the research goals. I propose that the San Rafael Style (i.e., Fremont) anthropomorphs are symbolic markers of group alliances across a social landscape. I then summarize the key points of this thesis and present future research directions.
CHAPTER 2: FREMONT AND ANASAZI INTERACTION

The nature of Fremont and Anasazi identities and relationships is multifaceted and is not neatly classified. The fluid and situational nature of ethnicity or ethnicities, for individuals as well as groups, defies being neatly packaged. Peoples representing the Anasazi tradition, also referred to as Ancestral Puebloans, inhabited the area south of the Fremont homeland. In southeastern Utah, the Anasazi tradition dates from approximately 500 B.C. to A.D. 1300. There are three Anasazi regions or branches that border the Fremont area: Virgin, Kayenta, and Mesa Verde. The Fremont predominated in the Colorado Plateau from approximately A.D. 400 and began to disappear from the archaeological record around A.D. 1250. Archaeologists (e.g., Geib 1996; Madsen 1982; Madsen and Simms 1988) and rock art specialists (e.g., Castleton 1978, 1979; Cole 1990, 1992; Schaafsma 1971, 1980) recognize interconnecting threads between the Anasazi and the Fremont.

In this chapter, I first introduce the Fremont, then the Basketmakers and the Anasazi. I then describe five examples of sites from these cultures, the Turner-Look site, the Bull Creek Sites, Coombs Village, Verdure Canyon, and Ticaboo Town Ruin Site. These sites epitomize the fluid and situational nature of ethnicity or ethnicities for the occupants and underscore the limitations of our categories and terminology.

Fremont

The Fremont, named by Earl Morss in 1931, is an archaeologically derived cultural group as there are no known direct descendants. Fremont people occupied
portions of the Colorado Plateau and Great Basin region—an area that spans most of the state of Utah and extends into parts of Colorado, Nevada, and Idaho. The Fremont predominated in the Colorado Plateau from approximately A.D. 400 and began to disappear from the archaeological record around A.D. 1250. Fremont subsistence strategies are best represented as a continuum that ranged from full-time settled farmers to full-time mobile hunter-gatherers, with various combinations in between. Fremont individuals and groups of individuals may have alternated the focus of their subsistence strategies within their own lifetime and across generations (Madsen and Simms 1998).

The origins of the Fremont have been a subject of considerable debate and arguments can be grouped into three main positions: Northern Periphery development, in situ local Archaic populations, or a combination of both. The Northern Periphery perspective considers the Fremont to be a northern extension or branch of Anasazi groups (e.g., Gunnerson 1969; Judd 1926; Kidder 1927; Morris 1931; Steward 1933). In the local Archaic roots position, the Fremont are thought to be a product of indigenous Basin traditions that developed out of local Archaic groups with an overlay of modified southwestern traits (e.g., Aikens 1970; Marwitt 1986). In the third perspective, the Fremont arose out of the ensuing synergism between both immigrant (e.g., Eastern Basketmaker II) and indigenous populations, culminating in what we recognize as the Fremont. Support for this last position is found in the piecemeal fashion in which maize, ceramics, and the bow and arrow were incorporated; indicative of a multifaceted phenomenon (Madsen and Simms 1998; Simms 2008).

The Fremont has been divided into several variants in sub-regions, based on geographic and temporal differences in material culture (see Madsen and Simms 1998 for
a comprehensive review). Marwitt (1970) conceptualized five variants, primarily based on ceramic type distributions, which are the Great Salt Lake, Uinta, Sevier, San Rafael, and Parowan. For some of these variants, additional phases have been proposed (Table 2.1). In contrast to Marwitt’s five variants, Madsen and Lindsay (1977) proposed three larger categories consisting of Basin Sevier, Plateau Fremont, and a potential unnamed Plains-derived culture. Subsequently, Madsen (1986) proposed an eastern and western division, or rather eastern Great Basin versus Colorado Plateau, based on differences in subsistence orientations. The variants located within the eastern Great Basin (Great Salt Lake, Sevier, and Parowan) are called Fremont, while those located within the Colorado Plateau (San Rafael and Uinta) are referred to as Sevier, having different subsistence orientations.

These and other classification schemes vary depending on what traits are emphasized. Trait lists specific enough to distinguish the Fremont from the Anasazi would exclude at least one of the variants, and traits lists that are broad enough to incorporate all of the variants are wide-ranging enough to encompass both Fremont and Anasazi (Madsen 1979a, 1979b, 1989; Madsen and Simms 1998), particularly as the Fremont groups on the Colorado Plateau have more in common with Anasazi groups on the Colorado Plateau than with their Fremont counterparts located in the eastern Great Basin (Castleton and Madsen 1981; Madsen 1989). This lead researchers to question the narrow modeling of culture and the underlying theoretical limitations of cultural/historical approaches (Madsen 1982; Madsen and Simms 1998; O’Connell et al. 1982) and Madsen (1982) to speculate that perhaps “Freazi” or “Anamont” could also be applied to sites along the Fremont/Anasazi interface.
Table 2.1. Fremont Phases (adapted from Talbot et al. 2000; Talbot 2000).

<table>
<thead>
<tr>
<th>Great Salt Lake:</th>
<th>Levee phase</th>
<th>A.D. 1000 to 1350</th>
<th>Fry and Dally 1979; Marwitt 1986</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bear River phase</td>
<td>A.D. 400 to 1000</td>
<td>Fry and Dally 1979; Marwitt 1986</td>
</tr>
<tr>
<td>Uinta:</td>
<td>Whiterock phase</td>
<td>A.D. 800 to 950</td>
<td>Marwitt 1986</td>
</tr>
<tr>
<td></td>
<td>Cub Creek phase</td>
<td>A.D. 650 to 800</td>
<td>Marwitt 1970, 1986</td>
</tr>
<tr>
<td></td>
<td>Cliff Creek phase</td>
<td>A.D. 200 to 650</td>
<td>Tucker 1986</td>
</tr>
<tr>
<td></td>
<td>Book Cliffs phase</td>
<td>A.D. 900 to 1200</td>
<td>Schroedl and Hogan 1975</td>
</tr>
<tr>
<td>San Rafael:</td>
<td></td>
<td></td>
<td>Marwitt 1986</td>
</tr>
<tr>
<td></td>
<td>A.D. 700 to 1200</td>
<td></td>
<td>Greubel and Chandler 1994</td>
</tr>
<tr>
<td></td>
<td>Muddy Creek phase</td>
<td>A.D. 700 to 1000</td>
<td>Black and Metcalf 1986</td>
</tr>
<tr>
<td></td>
<td>Bull Creek phase</td>
<td>A.D. 1000 to 1200</td>
<td>Black and Metcalf 1986</td>
</tr>
<tr>
<td>Sevier:</td>
<td></td>
<td></td>
<td>Marwitt 1986</td>
</tr>
<tr>
<td></td>
<td>Elsinore phase</td>
<td>200 B.C. to A.D. 500</td>
<td>Janetski et al. 2000</td>
</tr>
<tr>
<td></td>
<td>Backhoe phase</td>
<td>A.D. 500 to 900</td>
<td>Janetski et al. 2000</td>
</tr>
<tr>
<td></td>
<td>Clear Creek phase</td>
<td>A.D. 900 to 1350</td>
<td>Marwitt 1970; Janetski et al. 2000</td>
</tr>
<tr>
<td>Parowan:</td>
<td></td>
<td></td>
<td>Marwitt 1986</td>
</tr>
<tr>
<td></td>
<td>Paragonah phase</td>
<td>A.D. 100 to 1250</td>
<td>Marwitt 1986</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A.D. 1050 to 1300</td>
<td>Marwitt 1970</td>
</tr>
<tr>
<td></td>
<td>Summit phase</td>
<td>pre A.D. 900 to 1100</td>
<td>Marwitt 1986</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A.D. 900 to 1050</td>
<td>Marwitt 1970</td>
</tr>
</tbody>
</table>

Since the 1980s, there has been a major shift in Fremont research towards a behavioral perspective, which recognizes the plasticity of culture and the adaptive diversity of human behavior. Behavioral ecology, a subfield of evolutionary ecology, examines the decisions that individuals face in particular social and physical environments—how their behavior mitigates fitness related tradeoffs in continually variable ecological circumstances. Madsen and Simms (1998) proposed that by modeling through a behavioral framework, the circumstances of interaction and reasons for diversity can better address issues of social boundary formation, maintenance, and change.
**Basketmaker and Anasazi**

The term Anasazi has been used to refer to the Basketmaker and Pueblo people who occupied southern Utah, southwestern Colorado, northern Arizona, and northwestern New Mexico. Due to the variety of translations and meanings, some with negative implications, the Anasazi are also referred to as Ancestral Puebloan. For purposes of practicality, the term Anasazi is used throughout the rest of this work, as there is a long history of meaning that conjures a geographic area and prehistoric way of life. Moreover, there are deep roots and ties between the Fremont and Eastern Basketmaker II, and hence the term Ancestral Puebloan could also be legitimately applied to the Fremont.

Basketmaker and Anasazi history is usually set within a framework of eight cultural sequences, known as the Pecos Classification system, developed in 1927 with subsequent modifications. Although the chronological phases of the Pecos Classification system present each stage as distinctive, there is overlap and regional differences in the adoption of traits that mark the transition from stage to another. These stages primarily reflect changes in architecture and pottery and are briefly summarized in Table 2.2.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Date Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketmaker I</td>
<td>? B.C. to A.D. 500</td>
<td>A defunct hypothetical stage, now attributed to the late Archaic state; characterized by small hunter-gatherer groups that moved frequently and incorporated low-levels of corn into their subsistence system.</td>
</tr>
<tr>
<td>Basketmaker II</td>
<td>A.D. 1 to 500</td>
<td>A strong basketry tradition, with the rare occurrence of pottery; increased sedentism and storage of domesticates (corn, beans, and squash) with a reliance on wild floral and faunal resources; and an apparent divergence between Eastern Basketmaker and Western Basketmaker (i.e., White Dog Basketmaker) traditions.</td>
</tr>
<tr>
<td>Basketmaker III</td>
<td>A.D. 500 to 700</td>
<td>Pithouse villages, population increase and aggregation, and reliance on agriculture; widespread changes include incorporation of bow and arrow, gray and black-on-gray pottery used in conjunction with basketry, clay figurines, domesticated turkeys, and proto-great kivas.</td>
</tr>
<tr>
<td>Pueblo I</td>
<td>A.D. 700 to 900</td>
<td>Construction of adjoining rectangular surface architecture built on a linear plan, most commonly with jacal walls on upright slab foundations and kivas; increased reliance on agriculture with water control features; divergence in pottery types and decoration: black-on-white, grayware with neck banding, red-on-orange, and black-on-reds; and cranial deformation.</td>
</tr>
<tr>
<td>Pueblo II</td>
<td>A.D. 900 to 1150</td>
<td>Masonry pueblos with several living and storage rooms with one or more kivas and a communal trash dump are common, typically clustered into larger villages reflective of a population increase; adoption of corrugated pottery and numerous pottery types with regional distinctions; refinement of water control features; and an increased elaboration of Great Kivas.</td>
</tr>
<tr>
<td>Pueblo III</td>
<td>A.D. 1100 to 1300</td>
<td>Public architecture, large multistoried pueblos with plazas, increased aggregation into larger villages, and population increase; Chacoan expansion and decline; florescence in pottery, basketry, weaving, jewelry, and architecture; and overexploitation of resources with erosion and droughts.</td>
</tr>
</tbody>
</table>

Basketmaker II populations are the farmers of the mesas and canyons south of the Colorado River. They were more tethered to stored resources than the forager populations of the Archaic (Basketmaker I). There are two main divisions among Basketmaker groups, Eastern Basketmaker II and Western Basketmaker II (White Dog...
Basketmaker), which are based on a number of traits. The Eastern Basketmaker II were the first immigrants into Utah and were the farmers bringing agriculture to indigenous Archaic populations. Western Basketmaker II groups—which eventually would become the Anasazi—were possibly the source of later immigrations into the Fremont region through the A.D. 1100s. Western Basketmaker sites tend to be in more defensible locations and there are indicators of an emphasis on violence. This is visible in skeletal indicators such as trauma and scalping (Simms 2008). Human head trophies were also taken and depicted in rock art (Figure 9.2) (Simms 2010). Basketmaker III is a continuation and elaboration of Basketmaker II, with the incorporation of ceramics and the bow and arrow (Ambler 1977).

The Anasazi are divided into regional variants or branches, namely Virgin, Kayenta, Mesa Verde (also called San Juan), and Chaco (Figure 3.1). These branches are based on differences in architecture, ceramics, textiles, as well other items of material culture, and temporal placement. The Kayenta branch is found in southern Utah and northeastern Arizona. This branch has roots in Western Basketmaker II. In approximately A.D. 1050 there was a Kayenta expansion and at its maximum geographic extent it pushed north across the Colorado and into the eastern Grand Canyon. Small-dispersed homesteads primarily situated for crop cultivation composed of unit pueblos characterize this period (Lyneis 1992) and after A.D. 1100, communities became more aggregated, with abandonment by A.D. 1300 (Varien et al. 1996).

The Virgin branch is found in southwestern Utah, northwestern Arizona, and southeastern Nevada. Named after the Virgin River, which flows though the area, the Virgin branch is one of the least known. Similar to the Kayenta branch, the people lived
in small dispersed homesteads primarily situated for horticulture. The key difference from Kayenta and other Anasazi branches is lack of kivas in lowland areas and very limited evidence for them in the uplands (Lyneis 1992). In some Anasazi classification schemes, no distinction is drawn between the Virgin and Kayenta branches.

Chaco Canyon, located in the San Juan Basin of the Colorado Plateau, was the center of a regional social-religious-economic network. The roots of Chaco began in the early 10th century, but by the 11th century Chaco signaled something far different—an arresting development several magnitudes larger than what had existed before. This is evident in the complex great houses, elite leadership, social hierarchy, and high levels of costly, exotic goods (Lekson 1999). Radiating out from the Chacoan center was a vast network of roads with over 200 "outliers," which are Chaco-style buildings located considerable distances from Chaco Canyon. These outliers are found over a large area, sprinkled among thousands and thousands of 11th and 12th century pueblo sites. Irwin-Williams (1972) coined a name for this regional system, the Chaco Phenomenon. A Chacoan influence is present in southeastern Utah as there are several Great Houses and Great Kivas (Figure 7.30).

The Mesa Verde branch is found in southeastern Utah, southwestern Colorado, and far northwestern New Mexico lying north of the San Juan River. This area is known for its majestic cliff dwellings. There were several cycles of immigration and emigration into the Mesa Verde area, which show linkages with the Chaco branch (Cordell 1984). Varien (1999) proposed that the Mesa Verde region is a social landscape that dates A.D. 950 to 1290. This area is characterized by three general characteristics: (1) population growth and increased clustering of communities; (2) increasing isolation of large
communities from adjacent areas; and (3) localities were communities consisting of small sites that were not organized around larger sites or public architecture. Varien also found mobility to be a key part of these communities. During the late A.D. 1000s and again from A.D. 1150 to 1170, there were far fewer households constructed, suggesting emigration out of the region (Varien 1999). This emigration is important as the strongest source of Anasazi influence in the Moab area was from people of Mesa Verde heritage (Horn et al. 1994; Lindsay 1976; Neal and Simms 2008; Pierson 1981).

Discussion and Implications

Madsen and Simms (1998) proposed that archaeological classifications such as “Fremont” imply that there are discrete entities with clearly set parameters; yet the term Fremont does not clearly define an archaeological group, because so many variants exist that are assigned this classification. Madsen and Simms thought that the focus of archaeological classifications needs to change from a preoccupation with defining different phases and categorical definitions, and instead be:

“attuned to what the evidence tells us about behavioral variation across space and time, and from which selection produces an evolutionary outcome represented by changing frequencies of behaviors. In short, we think that Fremont research needs to focus less on categorical definitions and more on alternative adaptive strategies employed by these farmers and foragers” (Madsen and Simms 1998:5).

Simply put, classifications such as Fremont, Anasazi, and Basketmaker and their associated branches or phases encompass a diversity of ethnic heritage and language, not only between but also within. Around Moab and south into San Juan County there were strong influences from people of Mesa Verde heritage, and at times people of Kayenta
heritage pushed into areas near Bluff and Blanding, Utah (Horn et al. 1994; Lindsay 1976; Lister et al. 1960; Neal and Simms 2008; Pierson 1981; Sharrock 1966; Thompson 1979). A Chacoan influence is also evident near Bluff and Blanding (Hurst 2000; Jalbert and Cameron 2000; Mahoney 2000). During Fremont and Anasazi times, the Moab area could have hosted people from these different heritages at different times as a pattern of abandonment, migration, and resettlement was a way of life for these groups. The combinations of influence present in the archaeology of Moab could also be a result of routine interaction of people with different ethnic backgrounds (Neal and Simms 2008).

In the following section, I explore five sites from along the Fremont and Anasazi frontier that set the stage for exploring the fluid and situational nature of ethnicity and social boundaries that underscore the dynamic interactions in different situations and times.

**Freazi or Anamont?**

The Turner-Look Site, the Bull Creek Sites, Coombs Village, Verdure Canyon, and Ticaboo Town Ruin Site all share an underlying commonality (Figure 2.1). The multiple indicators of ethnicity and heritages suggest a need to move beyond questions of how to classify these sites towards asking why such behavioral diversity is present.
Figure 2.1. Map depicting the Fremont variants, selected Fremont and Anasazi sites, and the heart of Fremont culture area (adapted from Fetterman and Honeycutt 1994; Janetski 2002; Madsen 1989; Marwitt 1970; Simms 2008).
**Turner-Look Site (42Gr314)**

The Turner-Look Site is a village located on Cottonwood Creek at the base of the Book Cliffs. Wormington (1955) proposed that this site was seasonally occupied over a period of time by Fremont groups that were also perhaps a regional variant of Basketmaker. Corn was present throughout all excavated layers. On-site manufacture of ceramics also occurred. There are nine circular to ovoid structures built using both masonry and adobe. Turtle-back adobe was also present (a trait associated with Fremont or Basketmaker groups). Most of the structures are circular with a diameter of 4 to 5 m (13 to 16 ft) although there is some variability.

For example, Structure H is circular with a diameter of about 9 m (29 ft) with 0.5 m to 1 m (2 to 3 ft) walls and an entrance slightly east of north. In the southeastern quadrant, a niche was built in the wall. There were 15 different fireplaces, some lined with fitted stone, some with built up adobe rims, while others were basin-shaped hollows lined with adobe. On the floor, excavators found bone gaming pieces and a shaped pottery disk and a subfloor infant burial.

The Turner-Look Site contained an array of artifacts, including Fremont stone balls, approximately 190 gaming pieces (a trait attributed to Fremont or Basketmaker groups), ceramic spindle whorls, ceramic clay figurines, shaft smoothers, bone awls, bone beads and pendants, ceramic pipes, basketry, ceramic vessels, lithics, and copious ground stone. Slab-lined cists (typically attributed to Basketmaker groups) were also present.

The ceramic assemblage contains over 4,000 sherds. Approximately 95% of the sherds are Fremont affiliated. Originally, the sherds were called Turner Gray, a type now identified as Emery Gray (A.D. 700 to 1200). About 5% of the sherds are Anasazi types
and include Mancos Black-on-White (a Mesa Verde affiliated type dating from A.D. 900 to 1150), Tusayan Black-on-Red (a Kayenta affiliated type dating from A.D. 1000 to 1300), Middleton Black-on-Red (a Virgin affiliated type dating from A.D. 1050 to 1130), and Deadman’s Black-on-Red (a Mesa Verde affiliated type dating from A.D. 750 to 1066).

Lithics included over 600 projectile points, over 200 bifaces, and drills, choppers, scrapers, and hammerstones. Projectile point types include Large Side-notched, Rosegate (associated with the spread of the bow and arrow), Nawthis (common at Fremont sites to the north and west), and Cottonwood, which are usually associated with the Numic spread but also found at Nawthis Village in association with materials dating from A.D. 950 to 1150 (Holmer 1986), among others.

Several human burials were excavated. For example, a child and a middle-aged male were found interred together (Burial 1). The middle-aged male showed evidence of a traumatic death from a blow to the skull. One of the burials, a young adult probable female (Burial 3), exhibited lambdoid cranial deformation (a trait found in Basketmaker and Anasazi groups). Various human bone fragments were found throughout the site. Wormington (1955) proposed that the patterned fragmentary nature of some of the bones reflected processing for consumption.

In sum, this site reflects ties and connections between Fremont and Basketmaker groups as well as a relationship with Mesa Verde, Kayenta, and Virgin groups. The ceramic assemblage is overwhelmingly Fremont, hence the original classification. However, take away the ceramics and the geographic placement within a culture area, and this site would be classified differently. For example, Structure H displays several
characteristics that in a different region would have qualified it as a potential kiva. Based on Smith’s (1990) book *When is a Kiva?*, there are several attributes worth considering here. First, the relationship of this structure to the other structures: it is significantly larger and hence stands out. The thickness of the walls was also greater than at other structures. Taken together, this is indicative of a higher level of construction investment. Second, Structure H is located southwest of the majority of the structures; and lastly, a wall niche is present, common in Anasazi kivas. However, kivas are not considered to be a trait associated with the Fremont. Debating whether or not Structure H is in fact a kiva is not the point here; rather if it were not a “Fremont” site based on ceramics and geographic location, classifying it as a kiva would not raise any eyebrows. At the very least, the construction characteristics hint at Southwestern influences. Overall, there are ties and connections to multiple groups with diverse backgrounds interacting on a social landscape.

**Coombs Village (42Ga34)**

Coombs Village is a Kayenta complex occupied during A.D. 1075 to 1275 (between late Pueblo II to middle Pueblo III times) with a peak occupation around A.D. 1100. It lies further north than the distribution of other Kayenta sites and is near the current city of Boulder, Utah.

Architectural and cultural diversity are the hallmarks of this site. There are 83 recorded structures, which includes 37 habitations, 35 storage features, 10 pithouses, and a ramada. There is almost no superpositioning of structures at this site. The general layout of the community and architectural features are similar to nearby Mesa Verde
settlements with a significant difference—at Coombs Village there is a lack of kivas, which are not typically found at Fremont or Virgin sites—but would be expected at Kayenta sites (Lister et al. 1960). The projectile point assemblage is diverse as well. There are Nawthis Side-notched (common at Fremont sites to the north and west), Bull Creek points (Kayenta or Fremont), and Rosegate points which are associated with the spread of the bow and arrow (Lister 1959, Lister et al. 1960).

Sixty-seven structures at this site have been burned and the differential removal of artifacts from the structures suggests that this was intentional. Evidence in support of an intentional burning include no real indicators of violence, meager levels of stored goods left behind, and the high levels of less portable household goods. In particular, intentional burning is suggested by the number of whole and/or restorable ceramic vessels recovered from the burned habitation structures. This may be taken as evidence that the occupants of the village prioritized items to take with them during the abandonment shortly before the widespread burning of the village (Lister et al. 1960).

The ceramic assemblage is of interest for several reasons. There are over 20 whole or restorable Ivie Creek Black-on-White (a Fremont type dating from A.D. 700 to A.D. 1200) and several Fremont jars. Over 10% of the whole vessels are Fremont (Jennings 1966); this high level is particularly surprising given the lower levels of painted Fremont wares at Fremont sites (Janetski 2002). There were also intriguing design parallelisms between Tsegi Orange (a Kayenta type dating from A.D. 1125 to 1300) and San Juan Red (a Mesa Verde type dating from A.D. 650 to 1150) as well as the use of Black Mesa Black-on-White (a Kayenta type dating from A.D. 875 to 1130) design motifs on the Ivie Creek Black-on-White vessels. In addition to Kayenta and Fremont
types, there were also Mesa Verde, Virgin, and Chaco types (Lister et al. 1960). Lastly, of the 30 burials found at this site, only women and infants were buried with grave goods. These grave goods included high numbers of whole vessels, and both Kayenta and Fremont types were found intermingled within each of these burials (Roberts 1991; Lister et al. 1960).

Coombs Village was classified as Anasazi, but also with the recognition that the site was created by a group whose majority of founders were Kayenta but who also had assimilated a fusion of several different cultures from different regions. There are influences from Kayenta, Virgin, and Mesa Verde as well as the Fremont. The ceramic assemblages have imported and locally made Kayenta vessels and surprising levels of Fremont types including Ivie Creek Black-on-White and graywares (Lister et al. 1960). This village represented something new, not Kayenta or Fremont, but rather a mixture of a diverse array of heritages merging together creating a hybrid village-wide identity (see Learning and the Transmission of Pottery Style: Bowser and Patton section, Chapter 5).

**Verdure Canyon Site (42Sa10986)**

Site 42Sa10986 is a short-term habitation site that was either occupied year-round or multi-seasonally during the A.D. 1100s to 1200s (Fetterman and Honeycutt 1994). This site consists of seven structures and a diverse array of artifacts including lithics, mineral pigment specimens, ceramic sherds, vegetation/organic remains, and faunal material. Fetterman and Honeycutt proposed that the architecture and ceramic assemblage suggest three possible cultural affiliations—Mesa Verde, Kayenta, and Fremont.
The architectural features consisted of five non-contiguous, roughly circular or D-shaped, semi-subterranean, one room masonry structures abutting large boulders. There were also two structures composed of low, semi-circular, dry-laid stone masonry walls that abut a cliff and adjacent boulders; both structures are partly in the shelter of the cliff. Based on a comparison of sites to the north, south, and west of Verdure Canyon, Fetterman and Honeycutt (1994) found supporting evidence for Kayenta, Fremont, or possibly a Mesa Verde affiliation.

Mesa Verde ceramic types dominate the ceramic assemblage with sparse levels of Kayenta types. There are also sherds of indeterminate gray, corrugated, and white wares. According to Fetterman and Honeycutt (1994), the dominant occupation based on the ceramic assemblages dates to Pueblo III times (specifically, A.D. 1150 to 1250), with an earlier occupation during Pueblo I to Pueblo II times (~A.D. 875 to 980). There were six projectile points: four general Puebloan side-notched and two Bull Creek. Bull Creek points indicate Kayenta or Fremont affiliation. This type of point is commonly found in the Colorado River drainage in southeastern Utah at Fremont and Kayenta sites and date to approximately A.D. 950 to 1250 (Holmer 1986).

Overall, this site suggests multiple affiliations, driving home the inability of our current cultural constructs to represent possible mixing of different cultural groups (Fetterman and Honeycut 1994). The architecture suggests Mesa Verde, Kayenta, and possibly Fremont affiliations. Alternatively, the ceramics indicate a predominate Mesa Verde signature with a very low Kayenta signature. On the other hand, the Bull Creek projectile points indicate a Kayenta or Fremont affiliation.
**Bull Creek Sites**

The Bull Creek area is a cluster of sites on the northern foothills of the Henry Mountains. There are over 100 identified sites along Bull Creek. Eight sites have been excavated (Jennings and Sammons-Lohse 1981). This complex of sites was occupied from approximately A.D. 750 to 1150. The occupants relied on domesticated and wild resources. The sites consisted of permanent or semi-permanent dwellings, lithic quarries, lithic reduction areas, storage areas, small temporary camps, rockshelters, and observation sites. These sites were initially classified as Fremont; however, the architectural features and artifacts at the excavated sites reveal an extremely mixed composition of both Fremont and Anasazi cultural traits (Madsen 1989).

The architecture and storage features are characteristic of early Anasazi sites. The habitation sites are small, circular, and subterranean, approximately 4-6 m (13-19 ft) in diameter with entry way/ventilator shafts and interior hearths. They are occasionally rock-lined. In association with the pit houses, there is a single rectangular rock-walled aboveground storage structure. The pit houses also have slab-lined grinding bins and stone-lined storage cists, which are more typical for Anasazi sites (Madsen 1989).

The projectile point assemblages also indicate ties to Fremont and Anasazi. The most common type is Bull Creek points (Jennings and Sammons-Lohse 1981), which is the most common type found at Fremont and Kayenta Anasazi sites. Other projectile points include Parowan basal-notched (Fremont and Kayenta) and Nawthis side-notched (common at Fremont sites to the north and west) (Madsen 1989). In addition, the ground stone assemblage contains two Utah-type metates (considered a Fremont trait) and all of
the identifiable basketry remnants are Fremont types (Jennings and Sammons-Lohse 1981).

The ceramic assemblages at the excavated sites indicate ties to Anasazi and Fremont. At some of the sites, Anasazi types predominate, but at other sites, Fremont types are in the majority (Madsen 1989). For example, Gnat Haven (site 42Wn229) is dominated by Kayenta Anasazi types, followed by Fremont types, with low levels of Virgin and Mesa Verde Anasazi types. The semisubterranean habitation structure at Gnat Haven has associated surface structures including wing walls, slab-lined meal ing bins, and use areas, which are more typically found at Anasazi sites (Jennings and Sammons-Lohse 1981).

Alternatively, Ninas Hill (site 42Wn230) adjacent to Gnat Haven has a ceramic assemblage dominated by Fremont types, followed by Kayenta Anasazi types and low levels of Mesa Verde types (Jennings and Sammons-Lohse 1981). The pithouse at Ninas Hill is heavily plastered, with cobble faced walls, two wall niches, and a central slab-lined fire pit. These features lead the excavators to observe a definite Anasazi influence or combination of Fremont and Anasazi (Jennings and Sammons-Lohse 1981).

Overall, the excavated sites when taken as a whole yielded a ceramic assemblage dominated by Fremont types closely followed by Kayenta types with low levels of Virgin and Mesa Verde Anasazi types. However, if all Anasazi branches (Virgin, Mesa Verde, and Kayenta) are grouped together—as are the “branches” of the Fremont types (Sevier, San Rafael, and Parowan)—the ceramic assemblage is dominated by Anasazi types closely followed by Fremont types. As Madsen (1989) argues, the location of this site
within the Fremont cultural area led to circumstances where the geographic location determined cultural affiliation.

**Ticaboo Town Ruin Site (42Ga2295)**

Ticaboo Town Ruin is a small habitation site on the south side of the Henry Mountains. It was constructed during A.D. 1050 to 1150 (late Pueblo II times) (Madsen 1982). There is a small habitation structure with two associated storage features. In one of these storage structures there are two burials. The associated grave goods for these burials indicate affiliations with Fremont and Kayenta groups. Madsen (1982) proposed that the site is a result of a Pueblo II, Kayenta Anasazi occupation based on Kayenta style masonry structures; however, the artifact assemblage is indicative of a high level of interaction with Fremont groups.

The dwelling structure is a wet-laid masonry, roughly rectangular. The cliff face forms one wall, slump-block debris forms another, and shaped and unshaped sandstone slabs form the other walls with a door facing east. Artifacts from the floor of this structure include debitage, ground stone, and Tusayan Corrugated (a Kayenta affiliated ceramic type dating from A.D. 950 to 1300) sherds. Storage Structure 1 is roughly rectangular and is constructed of unshaped sandstone blocks irregularly set in a mud mortar mix. The cliff face forms one wall, a sandstone slump-block forms another, and the sandstone blocks form the remaining walls. Storage Structure 1 also had a secondary purpose as a burial crypt for two juveniles (Madsen 1982).

The associated burial goods consisted of a whole Black Mesa Black-on-White bowl (a Kayenta affiliated ceramic type dating from A.D. 875 to 1130), two sheep horn
tools, three Bull Creek projectile points, a string of 60 *Olivella* shell beads, Fremont style moccasins, debitage, and a leather fragment. Other artifacts at the site include Kayenta type sherds, bifaces, debitage, hammerstones, ground stone, and bone.

Overall, the artifact assemblage indicates multiple cultural affiliations. The ceramics are commonly found at Kayenta Anasazi sites during Pueblo II times (A.D. 900 to 1150). The moccasins are found in Fremont contexts (A.D. 700 to 1200) and are virtually non-existent in Anasazi contexts. The Bull Creek projectile points are found in both Fremont and Kayenta sites. Meanwhile the architectural features indicate a Kayenta affiliation (Madsen 1982). Hence, Madsen (1982, 1989) proposed that Ticaboo could be just as validly classified as Anasazi, Fremont, or affiliated with both cultural groups.

**Discussion**

Cultural boundaries are often based on regional distributions of artifacts and trait lists. However, cultural boundaries are far more socially fluid than allowed under classification schemes and phases. Fremont and Anasazi groups were moving across a social landscape as they practiced a way of life of occupation, abandonment, and resettlement. Within and among the various cultural branches of the Fremont and Anasazi there were multiple ethnicities, social identities, and heritages. The variation in material culture at sites along the Fremont and Anasazi boundary suggest a fluid frontier and hint to the situational nature of ethnicity and social boundaries. In the following chapter (Chapter 3: Rock Art Styles—Dating and Cultural Affiliation), I review rock art styles which is the commonly used methodology to date and determine cultural affiliation for rock art sites.
CHAPTER 3: ROCK ART STYLES—DATING AND CULTURAL AFFILIATION

Methods to establish analytical categories (i.e., styles) for rock art, and especially to date rock art and assign cultural affiliation based on these categories, are significant unresolved issues in rock art research. The criteria and methodology commonly used for establishing the potential age(s) of rock art style(s) and the cultural affiliation(s) are in need of refinement. In this chapter, I review the prominent methods for determining the age and cultural affiliation of rock art sites: superposition, artifact association, and rock art styles. As direct dating techniques have not been applied in this study, nor have they currently been applied on a large-scale in southeastern Utah, they are not considered further. I suggest that a clarification of the criteria used for assigning ages, in conjunction with a systematic approach towards data from associated artifacts, are necessary for advancing rock art research. I end this chapter with the proposition that the uncritical use of stylistic dating hinders our ability to examine the fluidity of ethnic and/or social boundaries.

Based on literature and records searches I conducted at the Utah Division of History, Antiquities Section, Moab Field Office—Bureau of Land Management, Special Collections at the J. Willard Marriott University of Utah Library, and at the archives of the Edge of the Cedars Museum there is one unifying connection. The assignment of age and cultural affiliation to rock art sites in southeastern Utah heavily relies on relative dating methods. Two intertwined factors are most influential—geographic location of the sites and the stylistic attributes of the rock art. Determinations of cultural affiliation are deeply rooted in geographic location. For example, rock art sites with ambiguous
imagery are often classified as belonging to a particular culture based on their location within a rock art style area and, hence, culture area.

A rock art style is considered to have cohesive set of artistic canons and principles, presumed to be reflective of a shared ideology by its creators. These stylized attributes are generally used to classify the rock art as conforming to a particular rock art style; however, some attributes crosscut multiple styles and must be used judiciously.

Another problem is that the reasoning behind assigning a particular date range for an identified rock art style is not always identified (e.g., Abajo-La Sal Style). Date ranges are then uncritically applied and become circular or specious logic as they are rarely tested against other lines of available evidence.

To varying degrees, culturally or temporally diagnostic artifacts present at sites are incorporated in determinations of age or cultural affiliation of the rock art. However, emphasis is frequently placed on the stylistic attributes of the rock art, and less commonly on the data from associated artifacts. Consequently, data from temporally and culturally diagnostic artifacts at rock art sites are not often utilized to their full potential for typological cross-dating to further refine date ranges of rock art styles.

I now turn the discussion to a review of superposition, artifact association, and rock art styles. Although there are other rock art styles associated with the Fremont and the Anasazi, the focus here is on representational styles present along Indian Creek, Sevenmile Canyon, the Portal Area, and Mill Creek Area (Figure 1.1; Figure 3.1). These styles include the San Rafael (i.e., Fremont), Pueblo (i.e., Anasazi), Abajo-La Sal (i.e., Fremont and Anasazi), and influential styles (Barrier Canyon, Glen Canyon Style 5, Uinta, and Uncompahgre) (Figure 3.2). I end this chapter with a discussion on the
broader implications for rock art research, particularly for frontier areas where multiple groups interact.

**Superposition**

Superposition occurs when one art element is carved or painted over another element. The element on top is newer than the older underlying element, which provides a methodology for establishing a relative age sequence (e.g., Keyser and Klassen 2001; Woody 1996). This allows an examination of different manufacturing episodes based on the separation of different layers. Superposition is most applicable when used to determine the relative ages of elements on a single panel or panels within the same microenvironment. For example, Woody (1996) used differences in patination to establish a relative chronology for over two hundred panels at the Massacre Lake site in Nevada. Based on the color differences and superpositioning of elements she established four different sequences of manufacture that she termed generations.

This method also relies on discernable differences in levels of desert varnish/patina to aid determinations of older versus newer elements of petroglyphs. The level of repatination and the reformation of desert varnish/patina can be used as a rough indicator of age of individual elements on a panel and the age of elements relative to each other (e.g., Cole 1990; Woody 1996). For example, darker elements are considered to be older than lighter elements on the same panel, since the darker an element is, the more time it has had to repatinate.

Rates of repatination are often based on impressions that are difficult to test and quantify. Critiques of this method include a need to understand the different rates of
weathering for elements and panels due to specific microclimatic variation, the exposure of the rock faces and the composition of rock surfaces, and the geochemical processes of patina formation (Dorn et al. 1992; Dorn and Whitley 1984; Hartley 1992). The level of repatination can also vary significantly within a single element. Repatination levels do not apply to petroglyphs created on surfaces with little to no desert varnish/patina development.

Artifact Association

The associative method attempts to determine relationships between rock art and nearby items of material culture (Castleton and Madsen 1981; Cole 1990; Hartley 1992). Associated artifacts include lithics, ground stone, ceramics, structures, and other items of material culture with temporally diagnostic information. A central premise is that these artifacts have a chronological window of use and delimited spatial distribution and, hence, cultural affiliation. In the Southwest, changes in architecture and pottery are the primary means of dating and determining affiliation, since these features have predominated research (e.g., Dolores Archaeological Project, Museum of Northern Arizona Ceramic Series). In southeastern Utah, research conducted into Fremont and southwestern ceramics and architecture offers a substantial body of research to draw upon while making age and cultural determinations. In Chapter 2 (Fremont and Anasazi Interaction) and Chapter 5 (Cultural Transmission Theory), I discuss these concepts in regards to the use of ceramics for dating and as indicators of affiliation.

This method can potentially introduce error if the artifacts and/or structures are not contemporaneous or have a weak association. This is an important consideration as
many of the rock art sites in my study show evidence of occupation, abandonment, and reoccupation. Therefore, an interpreted contemporaneity and association between artifacts and rock art must be demonstrated carefully and positively. One mechanism for a nuanced understanding of the temporal and behavioral correlation of artifacts and rock art is through larger, regional data sets—an approach not often undertaken in rock art studies, which are often characterized by smaller, descriptive data sets.

There are instances where artifact associations with rock art have considerably more solid support, particularly when rock art elements depict images of material culture items, such as ceramic designs, kachinas, clothing, sandals, or distinctive projectile points. In these cases, the well-established chronologies for artifacts can then be more accurately extended to the rock art in order to establish temporal links. In other instances, design types are associated with certain cultural markers, most notably horses, guns, and bows and arrows that provide a minimal age (e.g., Cole 1990). This may also be the case if repeated associations of artifacts can be demonstrated, or in cases where the imagery is integral to the structure (e.g., wall paintings).

**Rock Art Styles**

Classification schemes based on rock art styles have played a major role in formulating interpretations, particularly in the Great Basin and Colorado Plateau (Figure 3.1; Figure 3.2). The concept of style is complex and includes techniques of manufacture, subject matter, formal attributes, location, themes, relationships between elements, and the specific landscape setting in which they are located (Cole 1990; Keyser and Klassen 2001; Schaafsma 1971). Styles can vary according to regional areas, time
periods, and group affiliations (Castleton 1978, 1979; Castleton and Madsen 1981; Cole 1990; Francis 2001; Hartley 1992; Schaafsma 1986). Stylistic analysis groups images into broad categories based on similarities in subject, form, and technique (Manning 1992). Date ranges for rock art styles and cultural traditions are presented in calendar years.

A single style or element, however, can crosscut individual style boundaries and occur in different locations, periods, and cultures (Cole 1990). For example, representations of stick figure anthropomorphs, handprints, and animal tracks appear worldwide in rock art. A connective theme through all of the rock art styles under discussion is an emphasis on anthropomorphic forms (Figure 3.2). This adherence to a particular set (or sets) of representational rules for anthropomorphs may provide insight about the maintenance of social boundaries. For example, ethnic distinctions may be identifiable in body form and accessories (Schaafsma 2000:27).

Although there are many rock art styles found within the Great Basin and Colorado Plateau, my focus is on styles associated with Fremont and Anasazi in southeastern Utah: San Rafael (Northern and Southern variants), Pueblo I, Pueblo II-III, and Abajo-La Sal. These styles have linkages to other styles including Barrier Canyon, Glen Canyon Style 5, Uncompahgre, San Juan Basketmaker, and Uinta. Below, I discuss the distribution, date range (which are presented in calendar years), stylistic attributes, and cultural designation for each style. I end the chapter with an examination of issues with style categories and the implications for research into ethnicity and social boundaries.
Figure 3.1. Distribution of Selected Rock Art Styles and Anasazi culture areas (adapted from Cole 1990, 2009; Schaafsma 1971, 1980).
Figure 3.2. Selected Rock Art Styles found in the Eastern Great Basin and Colorado Plateau (adapted from Cole 1990, 2009; Schaafsma 1971, 1980; Slifer 2000).
**Barrier Canyon Style, 1000 B.C. to A.D. 500**

The Barrier Canyon Style is found around the Colorado River in Utah, the Grand Canyon in Arizona, and the White River in Colorado (Figure 3.1). This imagery is considered to be associated with late Archaic populations (e.g., Cole 1990; c.f., Manning 1990; e.g., Schaafsma 1971, 1980). As such, the beginning date is 1000 B.C. or even earlier. Proposed similarities between the unfired clay figurines from Cowboy Cave and Walters Cave are often used to support claims for much earlier origins (Figure 3.3, left); however, these claims are speculative. The end date of A.D. 500 is tentative and is based on some stylistic overlap with the San Juan Basketmaker Style (Cole 1990; Schaafsma 1980); this is a period of significant cultural changes, primarily an increasing focus on farming.

This style is characterized by anthropomorphs that are life sized to larger than life with long, tapering rectangular, triangular, or bottle shaped bodies that range from being headless to having small round heads with round staring eyes. Torsos typically have decorations composed of vertical and horizontal lines, dots, zigzags, or varying combinations (Figure 3.2; Figure 3.4). Smaller anthropomorphs, zoomorphs, snakes, plants, and tools for plant harvesting often accompany these figures (Schaafsma 1971, 1994; Turpin 2001). These figures are more commonly pictographs and occasionally petroglyphs. The large anthropomorphic figures are interpreted as portrayals of shamans and shamanistic rituals (Schaafsma 1994). There are formal and thematic similarities between anthropomorphic forms in Barrier Canyon Style and Glen Canyon Style 5 (Cole 1990).
Figure 3.3. Clay Figurine (*left*) and Split-Twig Figurine (*right*) from Cowboy and Walters Caves (Jennings 1980).

Figure 3.4. Barrier Canyon Style, Sevenmile Canyon. The larger anthropomorph has blue eyes and a blue snake in its mouth (photograph by K. Clawson).
Glen Canyon Style 5, 1000 B.C. to A.D. 500

The Glen Canyon Style 5 is also referred to as the Glen Canyon Linear Style (Schaafsma 1980). Originally articulated by Turner (1963, 1971), this style was developed based on sites in Glen Canyon. It is distributed throughout the Colorado Plateau and is most common along major river corridors such as the Colorado, Dolores, Escalante, Green, and San Juan (Figure 3.1) (Cole 1990). This primarily petroglyph style is considered to be associated with Archaic populations (Cole 1990; Schaafsma 1980; Turner 1963, 1971). The Glen Canyon Style appeared around 1000 B.C. or even earlier with a tentative end date of A.D. 500. The end date is proposed based on Turner’s (1963) work and its similarities to other Archaic styles (Cole 1990). As with the Barrier Canyon Style, the end date of A.D. 500 is a period of significant cultural changes.

Common forms for this style are anthropomorphs and zoomorphs that are typically outlined with hatching or interior decoration (Turpin 2001). The anthropomorphic forms are elongated and are rectangular to rounded, but may also be tapered or oval, along with stick figures (Figure 3.2; Figure 3.5). Zoomorphs are most commonly sheep and deer (Turner 1971). Turner (1971) and Cole (1990) propose similarities between the Glen Canyon Style 5 forms to split-twig figurines, some of which date to as old as 4,000 years ago (Figure 3.3, right). Archaic styles such as Barrier Canyon Style and Glen Canyon Style 5 are thought to have played a significant role in the development of Fremont and Anasazi rock art styles and mark the origins of a long-lasting focus on anthropomorphic forms (Cole 1990).
Uncompahgre Style, 1000 B.C. to A.D. 1000

The Uncompahgre Style is distributed in the La Sal Mountains and extends east across the Uncompahgre Plateau, Grand Mesa, and Battlement Mesa areas of western Colorado (Figure 3.1). The Uncompahgre Complex is a Late Prehistoric culture of western Colorado linked to the ancestors of the historic Ute peoples. Cole (1990) considers this petroglyph and pictograph style to be a single long-lived graphic system, while Buckles (1971) separates it into three styles. The Uncompahgre Style begins 1000 B.C. or even earlier and has an end date of A.D. 1000, which was proposed by Cole (1990) based on the presence of rock art traits associated with the Fremont and Anasazi.

Fauna is the focus of most elements including deer, bighorn sheep, dogs, and bears, and conventionalized bear tracks are commonly depicted (Figure 3.6).
Anthropomorphs are stick or rectangular bodied figures with rounded heads, extended arms, and large feet and hands (Turpin 2001). This style has less emphasis on anthropomorphic forms compared to the Glen Canyon Style 5 and Barrier Canyon Style (Figure 3.2). Some shared rock art imagery indicates some sort of interaction between the Uncompahgre Complex, the Fremont, and the Anasazi (Cole 1990). Tool grooves are also part of the Uncompahgre Style, but are considered to be part of the abstract tradition.

**Figure 3.6. Uncompahgre Style, Conventionalized Bear Tracks (adapted from Huscher and Huscher 1940).**

*San Juan Basketmaker Style, 100 B.C. to A.D. 750*

Also referred to as the San Juan Anthropomorphic Style, this style has a clear emphasis on anthropomorphic forms and dates to Basketmaker II to Basketmaker III times. The beginning date is 100 B.C. or even earlier, and end date is based on its demonstrated association with Basketmaker II-III cultural remains, in particular ceramics (Cole 1990; Schaafsma 1980). This style is more commonly pictographs with some petroglyphs. It is distributed along several river systems including the San Juan, Colorado, Dolores, Little Colorado, and in Glen Canyon (Figure 3.1) (Cole 1990).

Anthropomorphs are large and broad-shouldered with elaborate decoration including headdresses, jewelry, sashes, belts, menstrual aprons, and so forth, and are often depicted in horizontal rows (Figure 3.2; Figure 3.7). Other types of imagery in the
San Juan Basketmaker Style include abstract forms and extensive representational forms including birds, sheep, faces and masks, plant forms, wands, and so forth (Cole 1990; Schaafsma 1980). Later Basketmaker rock art (i.e., Basketmaker III) is similar to the San Juan Basketmaker Style but is generally less decorative (Cole 1990). In the following chapters, I refer to the more distinctive rock art images as San Juan Basketmaker, while others that are less distinct but still Basketmaker in style will be referred to as general Basketmaker, unless specifically identified as Basketmaker II-III by a rock art specialist.

Figure 3.7. San Juan Basketmaker Style, San Juan River (from Schaafsma 1980).
Pueblo I, A.D. 700 to 900 and Pueblo II-III, A.D. 850 to 1300

Puebloan rock art, consisting of both pictographs and petroglyphs, is distributed throughout the Four Corners region (Figure 3.1). Pueblo I is often difficult to distinguish from Basketmaker III and Pueblo II-III, due to a certain amount of overlap in artistic attributes and associated artifacts. However, Cole (1990) suggests that in the Mesa Verde area, Pueblo I rock art can be identified. She argues that Pueblo I anthropomorphs have extended raised arms while Basketmaker anthropomorphs have arms that hang downwards. In contrast, Pueblo I anthropomorphs are rectangular, tapered, and sticklike, with raised, extended arms. Pueblo II-III anthropomorphs are smaller and less elaborate, but similar in form to Pueblo I. Body forms are sticklike or elongated rectangles with rounded heads and other forms include humpbacked flute players and shield figures. Imagery found in association with Pueblo II-III includes handprints, circles, spirals, lines, sandal tracks, mazes, snakes, and anthropomorphs (Cole 1990) (Figure 3.2; Figure 3.8).

In southeastern Utah and perhaps in other areas as well, there are not enough points of distinction between Pueblo I and Pueblo II-III rock art styles to allow them to be treated separately; therefore, I refer to them all as Pueblo in the following chapters. Pueblo styles are dated by associated artifacts, primarily architecture and ceramics (Cole 1990). The period around A.D. 700 marks the transition from Basketmaker to Pueblo a time of significant changes including a proliferation of settlements, decorated pottery types, and an ever increasing reliance on domesticates. Around A.D. 1300, a transition began into the protohistoric period, another time of significant changes including increasing aggregation, dependence on horticulture, and a cultural reorientation (Ambler 1977).
Cole (1990) and Schaafsma (1980, 2000) find that Fremont symbolism had a strong influence on late Canyonlands Anasazi rock art, particularly evident in shield imagery and in the Faces Motif (in Chapter 6, I discuss Fremont imagery and the Faces Motif).

Figure 3.8. Puebloan Rock Art, Mesa Verde National Park (from Schaafsma 1980).

*Abajo-La Sal Style,*?

This style has a very limited distribution and occurs near the Abajo Mountains, in the Needles District of the Canyonlands, and the Moab area in Utah; it also occurs along the lower Dolores River in Colorado (Cole 1990). The identification of this style has roots in Hunt’s (1953) and Toll’s (1977) research, but was articulated and named by Cole after the mountain ranges where it is most commonly found (Figure 3.1).
Cole posited that the Abajo-La Sal Style shares characteristics of the San Juan Basketmaker, Barrier Canyon, and Fremont styles (Cole 1990:151-152,157). She found the Abajo-La Sal Style to be a local development shaped by the proximity of the Anasazi and the Fremont. In subsequent publications, the Abajo-La Sal Style has been attributed to Basketmaker II, highly influenced by the Barrier Canyon Style and the Uncompahgre Style, and is considered part of a complex of Archaic-based styles (Charles and Cole 2006:194), specifically late Archaic and early Basketmaker II times (Cole 2009:150). Cole has also proposed other date ranges including, pre-A.D. 1 to 900 (Cole 1990:151-152), pre-A.D. 1 to 1000 (Cole 1992b:50), and A.D. 600 to 1200 (Cole 1987:132). Fortunately, the criteria for assigning an age range or the oscillating age range are not clarified. I further consider the problematic nature of the age ranges for this style in Chapter 11 (Integration and Conclusion).

In the Abajo-La Sal Style, anthropomorphic forms are emphasized and it appears to be primarily petroglyphs with a scarcity of pictographs (Figure 3.2; Figure 3.9). These anthropomorphs are broad-shouldered with extended arms and frequently occur as rows of linked figures. Other anthropomorphic forms are rectangular, trapezoidal, sticklike, tapered, or roughly ovate. Interior body decorations are occasionally depicted but are less common. Zoomorphs, circles, spirals, lines, footprints/animal tracks, lines, and dots are also depicted (Cole 1990).

“Type-sites,” the archetype or ideal examples for the articulation of this style are found along Indian Creek, the Portal Area, and the Mill Creek Area; I discuss each site in their respective chapters with consideration given to archaeological context, and are further examined in Chapter 11 (Integration and Discussion). Owing to the ambiguity of
the date range for the Abajo-La Sal Style, I have chosen not to pick one arbitrarily; hence, it will simply be noted as present or absent.

Figure 3.9. Abajo-La Sal Style, Moab Golf Course (photograph by author).

Uinta Style, A.D. 500 to 1000

Also referred to as the Classic Vernal Style (Schaafsma 1971, 1980), the Uinta Style corresponds with the Uinta Fremont culture area and temporal placement. The age range for this Fremont variant is based on the large body of research into the archaeological assemblages in this region (e.g., Lindsay 1986; Marwitt 1986). The beginning date of A.D. 500 is tentative and may be closer to A.D. 650. The Fremont withdrew from this area before A.D. 1000 (Marwitt 1986), and consequently the end date
is fairly secure. The Wasatch Mountains to the west, the Uinta Mountains to the north, the Yampa River and Colorado to the east, and an arching southern boundary loosely bound this style area (Figure 3.1). There are two major districts, the Vernal-Dinosaur area, and the Ashley and Dry Forks area (Schaafsma 1971).

The hallmark of Classic Vernal panels is large anthropomorphs with broad shoulders, large heads, headdresses, with detailed ornamentation (Francis 2001; Schaafsma 1971, 1980). The anthropomorphs are usually presented from the front in horizontal rows. The anthropomorphs are typically pecked, some painted, and occasionally both (Figure 3.2). Other elements in association are large shields, concentric circles, spirals, zoomorphs (in particular, big horn sheep), and small anthropomorphs. The animal figures are typically small, simple, and lack the detail found in the larger anthropomorphs.

Classic Vernal Style has some themes in common with the rock art in this study. For instance, along Mill Creek there are high numbers of fringed anthropomorphs stylistically similar to those found in the Classic Vernal Style (Figure 3.10). Throughout most of the study area, there are also some interesting connections in regards to shield imagery.
San Rafael Style, A.D. 700 to 1250

The Northern and Southern variants of the San Rafael style are either classed as distinct styles (Schaafsma 1971, 1980) or treated as one style (Cole 1990; Schaafsma 1986). The style area corresponded with distribution and temporal placement of the San Rafael Fremont. The age range is based on a large body of research into the archaeological assemblages in this region. Fremont sites in this area began to appear by about A.D. 700 and began to disappear from the archaeological record about A.D. 1250 (e.g., Jennings and Sammons-Lohse 1981; Madsen and Simms 1998; Marwitt 1970, 1986). The San Rafael Style (or styles) is found to the north in Nine Mile Canyon and its tributaries where it merges with the Uinta Style, and it abuts the Wasatch Mountains to the west and extends into the Uncompahgre Plateau in the east. The southernmost extent
of this style area is in the Kaiparowits Plateau, Glen Canyon, and along the San Juan River in southern Utah (Cole 1990; Schaafsma 1971, 1980) (Figure 3.1).

There are points of distinctions between the northern and southern variants of the San Rafael Style. However, in the area around Moab, Utah, the northern and southern variants are intermingled with fewer points of distinction as they grade together (Schaafsma 1971). Hence, in this thesis, the northern and southern variants will be identified simply as San Rafael. The southern variant is defined by the presence of large, elaborate anthropomorphs depicted with zoomorphs, shields, and abstract elements (Figure 3.2; Figure 3.11). In the northern variant, there appears to be less emphasis on anthropomorphic forms and an increase in zoomorphs and abstract elements (Schaafsma 1980) (Figure 3.2). Fremont anthropomorphs are often broad shouldered and trapezoidal, with elaborate headdresses, jewelry, and clothing (Cole 1990).

Figure 3.11. Southern San Rafael Style, Colorado River (photograph by author).
Discussion

The concept of style and style categories is predominate in rock art studies. Many rock art studies assert what appear to be conclusive statements about temporal/cultural placement of rock art images when perhaps there is far more ambiguity than certainty. This is important to recognize, as rock art classification schemes have rarely been empirically tested or independently evaluated. A particular style is assumed to represent a specific culture or period; hence, the evolution of style is often correlated with the birth, growth, and decline of that culture (Francis 2001; Hartley 1992). This is problematic as many rock art styles have been articulated on relatively few “type-sites” and then extended to sites in other areas. This is often done without consideration of other lines of archaeological evidence.

To advance rock art studies in general, several fundamental principles must be redefined or clarified. The criteria must be specified behind assigning ages or date ranges and cultural affiliation to rock art styles. The use of rock art styles as a means to date and determine cultural affiliations at rock art sites must be applied critically and judiciously, with the reasoning conscientiously articulated. Lastly, the archaeological context of the rock art should be a primary focus of study, rather than a separate or detached line of inquiry.

Classifications based on style can be contradictory as imagery that is “clearly” of one style for a particular researcher, can “clearly” be a different style for another researcher. Furthermore, rote classifications of rock art panels based on style categories does little to elucidate the human behavior behind the extensive array of imagery. There are also other issues with style classifications as styles can overlap and blend (Castleton...
1978, 1979; Francis 2001; Manning 1992). It has been proposed that the blending of stylistic patterns and elements can occur due the interaction of different groups, such as the Anasazi and the Fremont (Cole 1990, 1992a; Hartley 1992; Castleton 1978, 1979; Castleton and Madsen 1981; Manning 1992; Schaafsma 1971, 1980). However, the use of delimited style categories implies that the differences between cultures or ethnic groups are static bounded categories.

Following this train of thought, cultural units such as the Fremont or the Anasazi are conceptualized as having a level of exclusiveness (i.e., a Fremont individual could not become Anasazi or vice versa), with a defined territory (i.e., geographic distribution), and a distinctive culture (i.e., different from others). However, it must be noted that the boundary between the Fremont and the Anasazi oscillated, hence territories were not fixed nor do they appear to be exclusive. I propose that the lines between these groups may have been far more socially fluid than commonly recognized (see Chapter 2: Fremont and Anasazi Interaction). A more nuanced understanding of the interplay of ethnicity, symbolic designs, and stylistic variation in the creation of rock art is needed (see Chapter 5: Cultural Transmission Theory).
CHAPTER 4: ROCK ART THEORY

Studies into rock art are primarily conducted through descriptive frameworks. This creates a baseline of information for other researchers, but these studies often fail to move beyond a show and tell approach. Some rock art studies have attempted to move beyond descriptive accounts towards theoretically driven examinations, with varying degrees of success. Several overarching themes are found in descriptive and theoretical approaches to rock art studies: chronology (age determinations), cultural affiliation, meaning and/or interpretation, and motivation for production.

Rock art is often considered problematic due to methodological and theoretical obstacles related to dating and interpretation. The enigmatic nature of art does not allow for easy quantification, a key component of scientifically driven approaches. As Woody (1996) notes, studies of rock art have existed at the edge of mainstream archaeology and thought to have little value as a source of scientific information. Other researchers pinpoint the roots of this marginalization before the advent of processual approaches and highlight the contributing factors, both methodological and theoretical (e.g., Francis 2005). Many researchers now consider rock art to be a rich, relatively untapped source that can illuminate the lives of past peoples. This change is evident through the proliferation of studies and methodological approaches in rock art since the 1980s (Bostwick 2005).

In this chapter, I first review the major theoretical approaches used in studies of rock art: hunting magic, neuropsychology/shamanic, and landscape/regional models. I then turn to two exemplary cases that demarcate a significant shift in approaches to rock
art studies as they move beyond descriptive accounts. These case studies are conducted using processual landscape/regional rock art models, which consider the chronological data, the subsistence/settlement pattern, topographic features, and the natural setting. I end this chapter with the proposition that rock art can best be approached through its archaeological context by utilizing frameworks that attempt to model human behavioral variation.

**Hunting Magic**

Initial attempts to explain the particular placement of rock art on a landscape associated it with rituals of hunting magic (Heizer and Baumhoff 1959, 1962). In this perspective, rock art functioned to enlist supernatural aid to assure hunting success. Heizer and Baumhoff argued that rock art was predominantly located on game migration routes and in association with hunting blinds and other indications of other hunting activities, such as projectile points. Based on their findings, they proposed that much of the rock art in the Great Basin could be explained under this model. Hunting models for the creation of rock art gained numerous supporters (e.g., Grant et al. 1968) and until recently dominated approaches in rock art research.

An increased recognition of the types of material assemblages found in association with rock art led other researchers to question the hunting magic model. For example, Quinlan and Woody (2003) highlight the social role that rock art played through the examination of domestic areas in relation to the location of rock art. Rock art, frequently in association with ground stone, middens, and structural remains, is directly associated with day-to-day routines of domestic life. Quinlan and Woody (2003) also
deconstruct notions that males are the source of all rock art, debunk male-oriented explanatory theories, and explore the role of women as the creators of these images through the examination of linkages between rock art and women’s activity areas.

**Neuropsychology/Shamanic**

More recently, the relationship between rock art, shamanism, and universal, underlying neuropsychological characteristics have been explored (Lewis-Williams and Dowson 1988; Whitley 1994). This approach is rooted in rock art imagery and psychological tests, which reveal that humans perceive a discrete set of visual images, called neuropsychology percepts, which have three stages, illustrated in Figure 4.1. These percepts are universally patterned mental imagery (i.e., phosphene, form constants, and entoptic images) that occur in altered states of consciousness such as trance. The underlying argument is since humans share the same basic neurological equipment, which functions similarly for everyone, universals may exist that predetermine the form of some images. It is our neuropsychology that gives us these universal patterns in altered/drug induced states, which influences the nature of the abstract rock art images produced (Lewis-Williams 2001). These universal patterns take on a variety of geometric forms (e.g., dots, lines, and circles) and images that are culturally determined.

Neuropsychology/shamanic models have gained widespread popularity and may adequately explain some types of rock art images. Under this model, all rock art is exclusively associated with male shamanic trance rituals; however, there are apparent reasons to question some of the underlying assumptions of this model. First, even if all rock art was a product of shamanistic rituals, it should not be assumed to be an all male
activity (e.g., Woody 1996). Second, rock art is associated with and demonstrated to have linkages to domestic areas (Quinlan and Woody 2003). In many cases, neuropsychology/shamanic models have been widely applied to contexts for which it may be ill-suited.

Figure 4.1. Neuropsychology percepts with the associated stages (adapted from Lewis-Williams 2001).

Other critiques of hunting magic and neuropsychology/shamanic models question the underlying assumptions. As these models do not take into consideration other ecological or social interpretations, the broader social functions of art, or the relationship of rock art and the environments in which it is found (Woody 1996); or how rock art can serve as a teaching tool. Most importantly, the neuropsychology/shamanic model is problematic to operationalize as this model does not generate testable propositions. For example, under neuropsychology/shamanic models, *all* rock art is assumed to be
explainable through this model. If all rock art can be explained, then what is the need for testable propositions or additional research beyond descriptive accounts? Although neuropsychology/shamanic models may explain some abstract rock art, there is a significant amount of representational rock art that is not adequately explained.

Recent rock art research has taken a radical departure from models that propose a single explanation for rock art. Instead, focus has been directed at understanding the surrounding context in which the rock art is situated. These types of approach can be generally referred to as Landscape/Regional models. For example, research conducted by Hartley and Vawser (1998) in southeastern Utah explores how rock art can be a form of communication. This is not in a literal sense, where each image is “read,” rather rock art serves as a means of spatial orientation. In this perspective, rock art has two main functions. First, the creation of landmarks through rock art helps to maintain a sense of direction. Second, rock art has a significant role in land-use strategies as a means of social manipulation to deter others from resource areas or from stored resources such as granaries.

Landscape/Regional

Recognizing important role of context, some rock art researchers have moved towards landscape/regional approaches to elucidate aspects of rock art. Landscape/regional approaches examine the material remains of past peoples in the larger social and natural environment they inhabited. There are two divergent threads within landscape/regional approaches. One thread emphasizes the significance of place and its role in the construction of cultural identity, within a postprocessual framework. The
other thread emphasizes the ecological factors of landscapes, within a processual framework. In this section, I introduce processual frameworks and discuss two processual landscape/regional approaches in more detail.

Processual approaches examine the relationship of rock art with major topographic features. These features can include rivers, mountains, lakes, basins, valleys, floral and faunal communities, and so forth. Emphasis is placed on examining rock art within its physical and archaeological context. Archaeological context is built through investigating the natural setting, settlement/subsistence patterns, and available chronological data to see how rock art is articulated with a larger prehistoric cultural system. I describe two significant studies, Hartley (1992) and Gilreath and Hildebrandt (2008), which utilize a processual landscape/regional approach.

**Canyonlands Rock Art: Hartley**

According to Hartley (1992), there is a relation between the placement and the context of rock art on a landscape. He further proposed that rock art in conjunction with other features of a site enabled past peoples to make inferences about: 1) past human activities in the area; 2) group identity of previous users; and 3) the future uses of the site, the surrounding area, and the potential for available resource procurement. Although the meaning assigned by past populations is unknown, Hartley argues that the systemic relationships between peoples and their socio-physical environment is reflected in rock art. He analyzes patterns and variability in content and context, assessing the results within the context of aboriginal adaptation in the northern Colorado Plateau.
Hartley argued for distinctive patterns in the frequencies of rock art elements present depending on where the rock art panel is placed on the landscape. The numbers of rock art elements present are used as an indicator of potential information context. Hartley proposed that the lower frequencies of elements in rockshelters is reflective of a reduced need for information content as these loci may have been reoccupied by groups of related peoples. Rock art in prominent locations such as cliff faces or detached boulders would have had a high information content reflected in the high number of elements, based on their use as landmarks by differing groups.

_Cosso Rock Art: Gilreath and Hildebrandt_

Gilreath and Hildebrandt (2008) found that interpretive models of rock art have disassociated rock art from its archaeological context. They posited that the meaning and antiquity of rock art are best understood when placed within its contemporaneous archaeological context through analytical methods. The authors argued against the perpetuation of increasingly convoluted explanations based on untestable hypotheses derived from ethnographic data with questionable linkages to the archaeological record. Gilreath and Hildebrandt sought to counter the typical interpretations of the Coso rock art area as it has emerged as a “type locality” for a shamanistic approach to rock art interpretation (e.g., Whitley 1994; Whitley et al. 1999).

The authors proposed that the concentrations of bighorn sheep petroglyphs are embedded in an archaeological record that dates between 2,500 and 1,000 years ago. During this period, there was an increase in human population densities, a fundamental
shift in hunting technology, and a shift from hunting large game to procuring small game and seeds. Gilreath and Hildebrandt supported their interpretation of the Coso rock art by drawing on the natural and archaeological data, dating methods, and faunal remains. They posited that the local and regional chronological data, settlement patterns, and subsistence practices all indicate that the production of Coso rock art mimicked the rise and fall of bighorn sheep hunting in the southwestern Great Basin.

A technological advancement of hunting weaponry in conjunction with an increase of human populations led to the over-exploitation of bighorn sheep. Hunting practices in the Newberry period (3,500 to 1,350 cal BP) were based on the use of darts and atlatls to hunt big horn sheep. The adoption of the bow and arrow during the Haiwee period (1,350 to 650 cal BP) increased hunting efficiency and contributed to the depletion of bighorn sheep in the region. The proliferation of bighorn sheep petroglyphs during the Haiwee period reflects a cultural response to the over-exploitation of a key resource. As the bighorn sheep populations declined, local groups responded with an intensification of ritualistic practices that vividly marked their territory and singled their distinctiveness from neighboring groups as a reaction to escalating inter-group competition. Gilreath and Hildebrandt further proposed that the hunting of bighorn sheep had more importance than subsistence, because successful hunters were able to gain high levels of prestige. Bighorn sheep ultimately became the dominate theme of large-scale ritualistic activities (Gilreath and Hildebrandt 2008).
Discussion

Research that attempts to address rock art within its archaeological context using landscape/regional models are of particular interest for two reasons. First, these models attempt to further our understanding of the meaning/behavior behind the creation of rock art. Second, these types of research bridge the schism between studies that rock art specialists conduct and those of archaeologists. Even though rock art is a line of archeological evidence, it is not always used to its full potential. The two case studies summarized above serve to underscore the usefulness of rock art data to broader, regional archaeological studies. However, it is important to note that there is no overarching theory or approach that explains rock art everywhere.

Cultural Transmission Theory (Chapter 5) addresses the cultural influences and adaptive responses that groups face in particular social and physical environments—how their behavior can change to adapt to societies other than their own and change their cultural framework accordingly. Under this paradigm, the issues of social boundary formation, maintenance, and change can be investigated by examining the circumstances of interaction and reasons for diversity.
CHAPTER 5: CULTURAL TRANSMISSION THEORY

In this chapter, I first review cultural transmission theory, the theoretical approach underlying this thesis. I highlight two cases that use this approach to explore behavioral variation in items of material culture from ethnoarchaeological and archaeological contexts. I propose that the variation found in rock art can also be examined through cultural transmission. I draw on two case studies that use rock art to investigate social identity. I end this chapter with the proposition that rock art is imbued with symbolic meaning and as such played an important role in the creation and maintenance of group distinctions and alliances on a social landscape.

Cultural Transmission Theory

The success and survival of individuals and groups is directly affected by culture, which plays an important role in shaping or limiting human behavior. Cultural transmission is the dissemination of knowledge, values, and other factors that influence behavior from one generation to the next. Cultural Transmission Theory is a neo-Darwinian model of the evolution of human cultural practice and decision-making that treats the transmission of culture as a selection process. While some cultural and behavioral variants may spread because they are more successful or perceived as such, other variants may diminish in frequency. In this way, selection shapes cultural “phenotypes” (expressions of knowledge and belief, such as artifact styles), which in turn shape genotypes. Individual learning mechanisms vary considerably, and interaction with the environment produces adaptive behavior. The transmission of culture has a
variety of structures or patterns of socialization by which a trait or set of traits disseminated can be grouped into two main categories—those affected by random forces and those affected by non-random forces (Bettinger 1991; Bettinger et al. 1996; Boyd and Richerson 1985, 1987, 2005; Richerson and Boyd 2005). Some of the cultural evolutionary forces are briefly summarized in Table 5.1.

Table 5.1. Cultural Evolutionary Forces (adapted from Boyd and Richerson 2005).

<table>
<thead>
<tr>
<th>Random forces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural mutation</strong>. Effects due to random individual-level processes, such as as misremembering an item of culture</td>
</tr>
<tr>
<td><strong>Cultural drift</strong>. Effects caused by statistical anomalies in small populations, such as instances where some skills are practiced by a few specialists, who happen to die young or have personalities that discourage apprentices, hence that specialized skill will die out</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-random forces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Guided variation</strong>. Non-random changes in cultural variants by individuals that are subsequently transmitted; this force results from transformations during social learning, or the learning, invention, or adaptive modification of cultural variations</td>
</tr>
<tr>
<td><strong>Content-based (or direct) bias</strong>. Individuals are more likely to learn or remember some cultural variants based on their content; content-based bias can result from calculation of costs and benefits associated with alternative variants, or because the structure of cognition makes some variants easier to learn or remember</td>
</tr>
<tr>
<td><strong>Frequency-based bias</strong>. The use of commonness or rarity of a cultural variant as a basis for choice; for example, the most advantageous variant is often likely to be the commonest; if so, a conformity bias is an easy way to acquire the correct variant</td>
</tr>
<tr>
<td><strong>Model-based (or prestige) bias</strong>. Choice of trait based on the observable attributes of the individuals who exhibit the trait; this also includes a predisposition to imitate successful or prestigious individuals, and a predisposition to imitate individuals similar to oneself</td>
</tr>
</tbody>
</table>
Two models of cultural transmission are highlighted in this thesis: guided variation and model-based bias. Guided variation assumes that individuals initially mimic the behavior of those around them and through a period of learning and experimentation adjust to conform to behavior that they calculate as socially advantageous. The effect of guided variation force on evolution depends on the existence of adaptive standards or criteria that are then culturally transmitted to subsequent generations (Boyd and Richerson 1988). The basic methods for making items of material culture are taught to novices, and once these methods are grasped and a level of competency obtained there is less variability in subsequent error associated with a learning curve (Bettinger 1991). Bettinger (1991) indicates that there are positive benefits for individuals who learn to adapt their techniques to accommodate changing conditions (Bettinger 1991).

Model-based bias refers to a preference for one kind of trait, referred to as an indicator trait, provides the main basis for choosing to adopt other traits. In this mode of cultural transmission, an individual selects a trait thought to be highly correlated with success and then emulates the rest of the behavioral repertoire of the individuals who display the trait and thought to be most correlated with success (Boyd and Richerson 1988). The desired indicator trait is used to select a role model and then all the other traits (behaviors) of that role model are adopted whole-scale. There are three types of traits involved: (1) indicator traits displayed by the potential role model, (2) additional behavioral traits displayed by the same role model, and (3) the preference of the unenculturated individual that determines the desirability for a given indicator (Bettinger 1991).
Figure 5.1 illustrates how cultural transmission operates over the life cycle of an individual through vertical, oblique, and horizontal cultural transmission. Vertical transmission takes place from parents and related individuals, while oblique transmission is the passing of traits from non-parental individual to an individual of a younger generation. Horizontal transmission occurs between peer individuals of the same generation or cohort. Boyd and Richerson (1985) found that the changes in intergenerational transmission (transmission between different age sets of cohorts), can cause the frequencies of some traits to change substantially.

Figure 5.1. Life Cycle of Cultural Transmission (adapted from Boyd and Richerson 1985).

The stylistic attributes of material items as well as stylistic variation have a behavioral basis. In the following discussion, I describe two case studies that utilize
Cultural Transmission Theory to explore the concept of style and the behavioral choices that underlie stylistic variability. Bowser and Patton (2008) explored the relationship of women’s life cycle to changes in pottery style through an ethnoarchaeological approach. Although the authors use a community of practice approach, the cultural evolutionary forces at play in this case study can also be classified as guided variation. Bettinger and Eerkens (1999) investigated the morphological differences in Rosegate lithic projectile points, which are the hallmark indicators of the adoption and use of the bow and arrow in the Intermountain West, to underscore regional differences in how this technology was transmitted. Bettinger and Eerkens found that guided variation and indirect bias are the cultural evolutionary forces at work in their case study.

**Pottery Style: Bowser and Patton**

Bowser and Patton (2008) examined the changes in pottery style over women’s lifespan in the Conambo Village, located in the Ecuadorian Amazon. They expected this to be a context where there was strong intergenerational continuity in pottery style among women. This expectation was based on several factors: the majority of women learned from their mothers or grandmothers, postmarital residency is matriloclal, pottery is made for domestic use, and market influences are absent. However, Bowser and Patton found that pottery style was more reflective of the women’s life stages. Hence, the variation in material culture reflected the life stages of women. Variation occurs as young women undergo a period of social learning, and errors occur as they obtain competency. After competency is obtained, there is variation due to adaptive modification as women choose
new ways to communicate their social identity. As women become older potters, they are the makers of the most desired pottery styles.

In the initial learning stages, a young woman receives instruction and correction in the proper way to construct vessels and paint designs. Matrilineal kin such as mothers, aunts, and grandmothers are the most influential indicators of stylistic similarity as young potters imitate and are instructed by them. Competency in pottery decoration and construction is usually achieved around 15 to 20 years old, at the transition to marriageable age and adulthood. After competency is gained, the competent potters begin looking for new ideas and modifying technological and decorative aspects of their pottery during a period of learning, invention, and adaptive modification.

Competent middle-age potters establish independent households and expand their political networks and standing within the community. The strongest indicators of stylistic similarity increase with alliances established with a village-wide cohort, demarcating a shifting alliance from mothers, aunts, and grandmothers toward their own age cohort, reflective of their expanding political networks. Older potters move away from expanded political networks towards a particular fraction, and their status significantly increases in the community. They become a model transmitter as the women of their own fraction pay attention and emulate and copy older potters’ designs. In particular, the young potters who then imitate the designs (Bowser and Patton 2008).

Bowser and Patton (2008) further demonstrated how pottery style is used to construct, maintain, and transform material culture and cultural boundaries. Style, a symbolic marker of social identity, changed during the lifespan of an individual woman. Stylistic behavior is based on a set of rules that can be manipulated to communicate
social identity as part of a motivated social strategy. The decision to imitate or deviate from the style of others represents choices about social identity. These stylistic behaviors communicate boundary consciousness, an awareness of the behaviors, beliefs, and values that distinguish “us” from “them,” also known as in-versus out-groups.

Bowser and Patton tested the ability of the female villagers to accurately recognize bowls made by women in their own fractions (in-groups) and those made by others (out-groups). The women were highly accurate in identifying in-group and out-group stylistic markers. Identification of out-groups is highly accurate for women of all life stages; however, a potter’s ability to identify her in-group increases with age. Thus aspects of pottery, the stylistic behaviors, are an effective form of communication that conveys social roles and group membership that can be manipulated as one chooses a social identity.

Projectile Point Morphology: Bettinger and Eerkens

Bettinger and Eerkens (1999) proposed that circumstances surrounding the spread and maintenance of bow and arrow technology were different in eastern California from central Nevada. The decrease in point size around A.D. 600 is thought to be reflective of the displacement of the atlatl (and the associated Elko Corner-notched points) by the bow and arrow (and associated Rosegate projectile points). Bettinger and Eerkens argued that the variance in the morphological characteristics of Rosegate projectile points is related to how the inhabitants of these two areas obtained and modified bow and arrow technology. They drew on the unexpected conflict between two typologies of Great Basin projectile point to explore how cultural behavior was acquired, modified, and
transmitted, and how to identify different kinds of cultural transmission in the archaeological record.

The first typology of projectile points relevant to the case study is the Berkeley system developed by Robert F. Heizer and others for eastern California; the second, the Monitor typology was developed by David Hurst Thomas for central Nevada. Elko Corner-notched (a large point) and Rosegate (a small corner-notched point) exhibit systematic disagreements in classification between the Berkeley and Monitor typologies. As both of the point types are corner-notched, the question becomes how to distinguish them.

The Berkeley system (applied in eastern California) uses weight as the distinguishing factor, while the Monitor Valley system (applied in central Nevada) uses basal width. Points that are Rosegate under the Berkeley system (i.e., classified principally by weight) are Elko Corner-notched under the Monitor Valley system (i.e., classified by basal width). Based on data from stratigraphic provenance and obsidian hydration measurement, these different typologies are well-suited for their respective geographic areas. That is, in eastern California weight is a better indicator of age and type, while in central Nevada basal width is a better indicator. Rosegate projectile points in central Nevada fit the criteria for both Berkeley and Monitor typologies, suggesting that in central Nevada weight and basal width are linked in a way that they are not in eastern California.

Bettinger and Eerkens (1999) proposed that the circumstances surrounding the spread and maintenance of bow and arrow technology were significantly different in eastern California. The inhabitants of eastern California acquired the bow and arrow
from groups with whom they had minimal interaction, and thus they had to perfect a
workable bow and arrow through trial and error—an example of guided variation. In
guided variation, individuals acquire new behaviors by directly copying other social
models and then modifying these behaviors to suit their own needs through a learning
process. This results in complex behaviors that are unique to the individual and hence in
the case of the different projectile point attributes are reflected in the poorly correlated
variables, weight and basal width. In central Nevada, weight and basal width are highly
correlated, suggestive of a scenario where the whole package was copied and kept
intact—a probable case of indirect bias. In indirect bias, individuals acquire new
behaviors by choosing a single model, resulting in behavior that more or less matches all
of the details of just this one social model, which is reflected in variables that are highly
correlated.

**Discussion and Implications**

The stylistic attributes of pottery, which includes technological and decorative
aspects, are learned from older individuals (vertical and oblique transmission) and
subsequently altered through experimentation and copying of peers (horizontal
transmission) over the lifespan of an individual female potter. The findings by Bowser
and Patton (2008) are supported by findings from other research. For example, Crown
(1999) reviewed the patterns of pottery learning for Southwest Pueblo girls in early
ethnographic accounts from the Southwest. This process was similar to the case study
discussed above, where young potters made pottery by observing, imitating, and being
corrected by mothers, aunts, grandmothers, and other women in the village (vertical and
oblique). Generally, this process begins around age 5 and the pottery manufacturing is usually mastered by age 16.

Graves’s (1985) ethnoarchaeological research also found the same pattern where young women learn to make pottery at a young age working with their mothers or other female relatives until proficiency is attained. Graves’s results indicate that inter-cohort differences are associated with gradual and directional changes in design (horizontal). Lastly, Longacre’s (1999) research into standardization and specialization also supports the idea that potters can recognize subtle differences that allow them to identify the maker of the pot and that as beginners become increasingly expert there is decreased variation in the their pottery.

These findings have implications for ceramic assemblages found in the archaeological record. For example, Coombs Village highlighted in Chapter 2 (Fremont and Anasazi Interaction) is a Kayenta complex with a fusion of several cultures from different regions with diverse heritages. The ceramic assemblage was intriguing for several reasons suggestive of cultural forces influencing ceramic style, such as, for example, the design parallels between Kayenta types and Mesa Verde types and between Kayenta and Fremont types. This raises the possibility that the design parallels reflect the expanding political networks of competent potters as they participated in larger community-wide networks with generational cohorts—a possible example of horizontal transmission. These alliances were symbolically displayed in ceramic design attributes and also may have been reflected in burial assemblages. At Coombs Village, only women and infants were buried with grave goods, which included high numbers of whole vessels. In each of these burials, Kayenta and Fremont types are intermingled. In sum,
the inhabitants of Coombs Village were a mixture of people with different ethnic heritages merging together creating a village-wide identity that is reflected in the behavioral variation found in material assemblages.

The patchy adoption of the bow and arrow across a regional boundary implies different cultural transmission processes in different areas, such as in southeastern Utah. For example, in Western Basketmaker II populations (south of the Colorado River) the bow and arrow was not common until about A.D. 600. Meanwhile indigenous Fremont (or Proto-Fremont) groups in the canyons north of the Colorado River had the bow and arrow by A.D. 100 to 200. Eastern Basketmaker II (Four Corners region), linked by common Archaic traits to the Fremont, shows hints of the adoption of the bow and arrow at some sites perhaps as early as A.D. 150 to 450. The early arrow points of both Eastern and Western Basketmaker II show differences from those of the Fremont groups north of the Colorado River (Simms 2008). In sum, as Bettinger and Eerkens (1999) and Simms (2008) proposed, there is differential adoption of the bow and arrow based on behavioral choices that are reflected in material assemblages. As with ceramics, the use or adoption of a particular weaponry (i.e., atlatl or bow) also signals group identity and allegiance.

Of particular interest are the implications for situations where different cultural variants (particular sets of attitudes) interact as a result of migration. Under these circumstances, two different cultural groups each with a favored behavioral system are exposed to models with “deviant” behavior (Bettinger 1991; Bettinger et al. 1996; Boyd and Richerson 1987). Boyd and Richerson (1987) discussed these implications as they explored the evolution of ethnic markers of group membership through a cultural transmission perspective. They found that individuals acquire a marker trait (e.g., dialect,
pottery style, projectile point style) at an early age through copying, and acquire their adaptive trait at a later age by observing a wider range of potential models. Boyd and Richerson suggested that the acquisition of the adaptive trait is biased by two processes. In the first process, individuals are predisposed to imitate others who have similar marker traits. In the second process, individuals undergo subsequent modification of both their adaptive and marker traits by imitating successful peers or cohorts.

Migration into a new habitat means that some individuals will adopt beliefs and values that are appropriate in the new habitat, but others will share the beliefs and values with those in the old habitat. The strength of this process directly varies with the level of migration between populations, among other factors. As the level of migration between two adaptively different populations increases, the correlation between the adaptive and symbolic traits and values also increases (Bettinger 1991; Boyd and Richerson 1987).

In circumstances where two populations of equal size come into contact the greater their initial symbolic differentiation the more likely it is that they will occupy different adaptive specializations. Then the relatively greater symbolic variation decreases the mixing effect of migration, increasing the effect of indirect basis. When a series of groups interact across an ecological boundary, the greatest symbolic differentiation between groups and highest correlation between adaptive and symbolic traits should occur at the ecological boundary itself (Bettinger 1991; Boyd and Richerson 1987). These implications are further discussed in Chapter 11 (Integration and Conclusion).

Evolutionary models of cultural transmission suggest that changes in style should directly correspond to technoenvironmental cultural change or periods of initial contact
between cultures (e.g., migration). Hence, focus should not be on the endless naming of types but rather an analysis of the way in which traits vary and co-vary as the result of the processes of cultural transmission between and within cultures. In this perspective, types are viewed as constantly in the process of forming, falling apart, or developing in a more extreme form. The effects of cultural transmission are often most apparent during periods of change or when processes such as migration pull groups away from behaviors that were optimal (Bettinger 1991).

**Rock Art and Cultural Transmission Theory**

I suggest that the implications of behavioral stylistic variation found in projectile points and ceramics are also usefully to be sought in rock art. Similar to portable artifacts, humans creatively designed and produced created rock art; however, rock art is typically fixed on the landscape. As previously demonstrated, design attributes can be a sensitive indicator of cultural interactions. These decorative aspects communicate information about social identities to participants within a larger social network. Rock art is a visible indicator of group membership and is part of a highly public landscape. The placement of rock art on the landscape is also important, as a majority of rock art sites included in my study are highly visible and are in association with other material remains.

Quinlan and Woody (2003) demonstrate the social role that rock art played through the examination of domestic areas in relation to the location of rock art in the Great Basin. The domestic context of the rock art means that it was encountered during daily activities and the rituals associated with rock art are embedded within a social
framework, where rock art was created to negotiate social relationships. Quinlan and Woody argue that the production of rock art is linked to social rituals; hence, rock art is a sensitive indicator of ethnic affiliation that co-varies with ritual practices.

Here, I draw on two case studies that use rock art to investigate social identity. Although these studies do not utilize the framework of cultural transmission theory, as it has been rarely applied to studies of rock art, there are key contributions to the discussion at hand. Bernardini’s (2002) research explores the relationship of migration, clan identity, and rock art motifs. Olsen’s (1985) research underscores the relationship of rock art to the negotiation of social relationships.

**Migration, Clan Identity, and Rock Art: Bernardini**

Bernardini (2002) proposed that serial migration changed the composition of villages and inter village relationships at Homol’ovi and Anderson Mesa in north-central Arizona during A.D. 1275 to 1400 (Pueblo IV). Contemporary Hopis define their ethnic identity as an amalgamation of many different diverse groups, termed clans. Each clan has a distinct social and ceremonial identity and maintains its own history. Often the clan’s name and symbolic totem are derived from circumstances of their own unique migration. These clans periodically came together to form villages for a short time before independently moving on. As such, villages were formed from many different clans with considerable social diversity. Bernardini (2002) investigated the role of migration in identity creation by examining patterns in rock art motifs and ceramic compositional analysis of Jeddito Yellow ware.
Bernardini (2002) examined rock art motifs used by historic Hopi Pueblo groups as clan symbols to mark the presence of social groups at particular locations and argues that prehistoric groups used rock art symbols in the same ways to express group identity. Ethnographic accounts reveal that clan markers were depicted in rock art to mark participation in salt gathering trips, boundaries and ownership of agricultural fields, and by Puebloan workman as signatures. He then uses the ethnographically known clan symbols to refine the rock art element data set for eight sites to evaluate whether closely spaced sites received diverse groups of migrants. Bernardini measures these relationships by the distribution of group-identifying rock art symbols. He found that most of the villages were associated with a distinctive set of two to four petroglyph symbols that can be distinguished from other villages.

Bernardini (2002) also considered other lines of evidence, in particular ceramic data to look at relationships between possible hosts and migrant groups. Jeddito Yellow Ware is a unique ware that is fired in oxidizing atmospheres using coal, which gives it a distinctive appearance. He proposes that pottery exchange networks provided information that influenced decisions about migration destinations. Bernardini found supportive data in the marked differences in source material for Jeddito Yellow Ware and proposes that groups with strong exchange ties are more likely to migrate to those areas where ties have been established. The long-distance circulation of decorated ceramics reflected alliances with distant groups.

In sum, Bernardini (2002) found that migrants often left villages to join other villages, with frequent uncoordinated movements of small groups that recreated linkages between donor and host villages that are visible in rock art motifs. He proposes
additional research into how immigrant and host identities were maintained and transformed as a result of migration.

**Visual Communication and Rock Art: Olsen**

Olsen (1985) proposes that rock art is a visual communication system that documents and validates aspects of cultural organization, and reinforces oral traditions by storing cultural information. She examined associations between rock art motifs used by historic Hopi and Zuni groups in ethnographic accounts and those motifs found in archaeological contexts at Hovenweep. Hovenweep is a major complex of villages on the southeastern Utah and southwestern Colorado border, generally considered to be associated with the Mesa Verde Anasazi.

Rock art motifs used by historic Hopi and Zuni groups in ethnographic accounts are affiliated with particular clans and these clan motifs are similar in both Hopi and Zuni contexts. This shared similarity may reflect a common understanding. Clan symbols serve to identify clans, but also clarify economic access rights, ownership, and fulfillment of clan obligations. They also carry information regarding boundaries between social and kin groups. The iconography of Hopi and Zuni reinforce the collective memory of clans, societies, and villages, and serve as long-term repositories of cultural information (Olsen 1985).

Nineteen rock art sites were included in Olsen’s (1985) study, these sites were found in association with habitations, probable farm fields, and water control features. She argues that there is a high probability that the occupants of Hovenweep identified and were organized in lineages that used totemic signs as identification. Furthermore,
prehistoric rock art at Hovenweep and that in historic Hopi and Zuni contexts share cultural similarities and correlations. Olsen proposes that the identification of motifs associated with lineage/societal contexts may be found through the examination of associated archaeological data.

Discussion

These case studies underscore the need to examine issues of social boundary formation, maintenance, and change through a perspective that addresses the circumstances of interaction and the reasons for diversity in rock art imagery. Rock art is imbued with symbolic meaning and as such played an important role in the creation and maintenance of group distinctions and alliances on a social landscape. Cultural transmission provides insight into the social contexts that produce variation.
CHAPTER 6: ANALYTICAL METHODS AND DATA COLLECTION

In this chapter, I first introduce the research goals and the questions used to address them. I then briefly introduce the statistical methods used followed by the methods used to collect and present the data. I end this chapter with a brief introduction to the geographic sub-areas. As previously discussed, the study area is divided into four sub-areas: Indian Creek, Sevenmile Canyon, the Portal Area, and the Mill Creek Area, each with distinctive rock art and archaeological patterning.

Research Goals

Three corollary goals guide this research. The first goal is aimed at elucidating the nature of Fremont and Anasazi interaction in southeastern Utah through the critical examination of the Abajo-La Sal Style (attributed to the Anasazi and the Fremont). The second goal is required to achieve the first goal, which is to examine the relationship of rock art styles to each other. The last goal is also related to the first two goals, is to examine the relationship or “fit” of archaeological assemblages to the proposed rock art date ranges. Three main questions are considered:

Question 1: Is the Abajo-La Sal Style associated with dated archaeological assemblages that indicate a possible temporal placement?

This first question seeks to clarify temporal placement and cultural affiliation for the Abajo-La Sal Style. Oscillating date ranges and rock art style associations have been
proposed on relatively few “type-sites” and extended to other sites. This rock art style, if it is reflective of Fremont and Anasazi speaks to the central goal of this thesis. This style is the most tentative and least known. Thus, any attempt to describe its association in space with other styles, or its chronology in relation to archaeological sites can only help place this style in context.

**Question 2:** What are the relationships among rock art styles at these sites, and do they spatially associate with archaeological site attributes?

The second question speaks to the associations among rock art styles. The associations among rock art styles has not been subject to systematic analysis. I seek to describe the degree to which the styles employed by rock art specialists are found in association on a site-specific basis. The data set obtained in this study has permitted some statistical evaluation of the strength of association among these rock art styles.

In this thesis, I focus on San Rafael (i.e., Fremont), Pueblo (i.e., Anasazi), Abajo-La Sal (i.e., Fremont and Anasazi), and styles thought to be influential in the study area (Barrier Canyon, Glen Canyon Style 5, Uinta, and Uncompahgre). Associations between rock art styles are largely proposed on stylistic attributes, that is, intuitive relationships based on perceived similarity. The association of rock art styles to each other, that is, what types occur with other types is not often addressed and may be counterintuitive.

**Question 3:** Do the presumed date ranges of rock art styles match with the dates of associated archaeological assemblages?
This last question establishes the archaeological context for the rock art sites. As it stands, rock art studies are largely the domain of specialists and have developed under separate lines of inquiry, while archaeological context has been the domain of other archaeologists working in academic and cultural resource management settings. Rock art classification schemes are rarely empirically tested or independently evaluated against other lines of available archaeological evidence. The relationship of archaeological assemblages and rock art styles is not always straightforward as some sites show evidence for occupation, abandonment, and reoccupation.

These research questions set the stage for an examination into the variation found in material assemblages and rock art in southeastern Utah through a cultural transmission perspective.

**Statistical Methods**

In this thesis, I use two methods of statistical analysis: cluster analysis and correlation coefficient. Cluster analysis was used to look for patterns of association within the data set. It is a methodology for grouping objects that are similar into categories, so that the degree of association or correlation within a group is fairly high and fairly low if they are in two different groups. Correlation is a measure of the relationship between two or more variables and the correlation coefficient is a numerical statement of the linear relationship between two variables that can be positive (1.00) to negative (-1.00). The strength of this relationship also expressed in a probability value.
Research Database

Documentation of the rock art sites included in this study come from site records (IMACS), survey and excavation reports, and unpublished field notes from various fieldworkers, including me. The bulk of the documentation was obtained from literature and record searches I conducted at the following institutions and agencies: Utah Division of History, Antiquities Section; the archives of the Edge of the Cedars Museum; Moab Field Office, Bureau of Land Management; and the Special Collections (Manuscripts, Multimedia Archives, and University Archives and Records Management) of the J. Willard Marriott Library, University of Utah. At the beginning of each chapter, I present generalizations about the archaeological patterns in each sub-area of concern. These generalizations are based on larger data sets obtained from the literature and records searches.

The literature and records searches also focused on rock art sites, particularly those with San Rafael, Pueblo, and Abajo-La Sal styles and influential styles in Grand County and the Northern portion of San Juan County. After reviewing these records, four study areas were chosen: 1) Indian Creek; 2) Sevenmile Canyon; 3) the Portal Area; and 4) the Mill Creek Area (Figure 1.1). The selected database used in this study contains information on 48 sites. This database allowed a general picture of landscape use for each of the sub-areas as well as providing detailed information on the sites.

The sites in my database were also selected based on the presence of diagnostic artifacts, radiometric data, and connective rock art motifs or themes. Almost all of the rock art included in this study is highly visible on the landscape and most of these sites have been impacted by modern looting. Fieldwork was conducted in several sessions
beginning in 2007 and ending in 2009, and I was occasionally accompanied by local informants familiar with both the archaeology of the area and the location of some of the rock art sites. Owing to time constraints, each site was photographed under the lighting conditions present at the time of first encounter.

There are several factors to keep in mind when considering these data. There are some issues with the comparability of data recorded due to differences in the language and organization used to describe and present features and artifacts by individual researchers and institutions. Whenever possible I have standardized the terminology and the organization of information. I have also included references to individual site records (IMACS), as for some of the sites it is the only form of documentation.

In several instances, sites have been assigned multiple numbers and wherever possible I have reconciled this information. For each site, the permanent site number (i.e., Smithsonian Trinomial) or numbers are identified in the heading for each section as well as the common name or names. In the cases of multiple site numbers, a common name is used to discuss the site in order to avoid confusion. For sites along Mill Creek (Chapter 10) temporary numbers are also indicated as many of the cultural resource reports were written using temporary site numbers.

In an effort to balance ethical considerations with accurate reporting, information regarding site-specific locations are not provided in this thesis. Only general locations are used (e.g., the Portal Area) and at times site maps have been edited to remove location information.
**Temporal Data**

Both calendar years and radiocarbon years are used in this thesis. All radiometric dates mentioned in this thesis are calibrated and the sampled material is indicated. Calendar years are generally preferred due to their long precedent in Southwestern archaeology. The development of a Fremont chronology has deep roots in Southwestern chronologies. Ceramic styles are dated by association with stratigraphic placement in contexts dated by tree-rings or radiocarbon. They are age ranges expressed in calendar time that are estimates compiled from various sites. Ceramics have been the primary distinguishing characteristic for assignment of cultural affiliation to branches and phases within a temporal framework.

**Ceramics**

Ceramic types have been used as key cultural and temporal markers. Stratigraphy and frequency seriation were first used, and subsequently dendrochronological data were added to develop ceramic chronologies. Tree-ring dating is the most precise method of dating available for this region and there has been a close interaction between the development of ceramic and tree-ring chronologies. Numerous sites have been excavated providing tree ring dates recovered in association with many well-dated ceramic types (e.g., Breternitz 1963, 1966). The ubiquity of time-sensitive ceramic types has been the primary means for deriving chronological controls for occupations. In order to standardize conflicting date ranges the ceramic date ranges used within this thesis are presented in Table 6.2. For each ceramic type, the widest range is used when reporting a ceramic date range.
The ceramic chronology for sites in this study are generally from sites outside the study area, but within the Four Corners region; hence, are all dated by association with a regional ceramic chronology. For example, when a site description mentions that sherds of Mancos Black-on-White (a Mesa Verde affiliated ceramic dating from A.D. 900 to 1150) are present the date range is drawn from the well-established database, not from the few dates obtained from the sub-areas under examination (e.g., the Mill Creek Area).

The most common methodology for calculating an occupational range is known as the ‘mean ceramic date,’ which is a rough indication of the chronological position of a ceramic assemblage. This method depends on accurate counts and typing of all the ceramic sherds present and are based on tendencies in large samples at complex, well-dated sites. The smaller the sample of sherds from an undated site reduces the value of the ceramic mean date for estimating the age within the total range. Samples of only a few sherds or a single sherd do not necessarily have a relationship to the ceramic mean date.

As sherd counts are not typically recorded and the sherds were no longer present at the sites visited for this study, other means were needed to refine an occupational range for the sites used in this study. In the following chapters, the date range is first given for each ceramic type followed by a targeted date range. Figure 6.1 illustrates a hypothetical ceramic date ranges and how the targeted ceramic date range is calculated for a site.
<table>
<thead>
<tr>
<th>Cultural Affiliation</th>
<th>Ceramic Type</th>
<th>Span (years)</th>
<th>Widest Range (AD)</th>
<th>Date Range (AD)</th>
<th>Reference</th>
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<td>Fawcett 1999:1; Madsen 1977:31; Oppelt 1988-252</td>
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<td></td>
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<td></td>
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<td></td>
<td>1125-1175</td>
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<td>Oppelt 1988:269</td>
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<td>Oppelt 1988:298</td>
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Table 6.1. Ceramic Affiliation and Date Range (Continued).

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<td>Time span of Mesa Verde types</td>
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</tbody>
</table>
Figure 6.1. Example of Targeted Ceramic Date Range.

In this example, both Mesa Verde (green) and Fremont (blue) affiliated ceramics are present. The horizontal bars indicate the time range from beginning to end date of manufacture, and the mean ceramic date is represented by vertical black bars at the center of each date range. The targeted date range is the overlap date range for the various types of ceramics present, indicated by the vertical red lines in Figure 6.1. The targeted ceramic date range for this hypothetical site would be A.D. 900 to 1200. This method removes some of the earlier and later date range of the overall ceramic assemblage in order to identify a more probable occupational range.

**Projectile Points**

For the purposes of this thesis, an average date of A.D. 500 is assumed for the widespread use of the bow and arrow. Unknown arrow points are also assigned a date
post A.D. 500 and unknown dart points are assigned to pre A.D. 500. Wherever point
types are identified, the date ranges are indicated using Holmer’s (1986) chronology for
Utah and the eastern Great Basin; projectile point chronologies in the Southwest are not
as well developed owing to greater research emphasis on more temporally-sensitive
ceramic styles. Similar to ceramics, projectile point chronologies are developed from
stratigraphic associations with dated contexts (i.e., tree-ring, radiometric), although
projectile point chronologies are less precise.

The classification of unknown points under the IMACS coding system has been
retained for several reasons. First, these points may have been typed and fall outside a
known type, which significantly implies that the point was typed but does not meet the
criteria for a known style. Secondly, diagnostic information such as the shoulders or
neck of the point may no longer be present but there is enough present to determine that it
is a point and has been classified as such rather than the more general biface category.
Lastly, the recorders may not have been familiar enough with the point types of the area
to accurately type the points.

**Rock Art**

The rock art styles examined in this study are fully detailed on in Chapter 3 (Rock
Art Styles) in order to orient my discussion of the research issues. Figure 3.1 illustrates
the geographic distribution of rock art styles and Anasazi culture areas. Figure 3.2
displays archetypes for each important rock art style as well as their associated temporal
ranges. For each site, I indicate whether pictograph, petroglyph, or combination figures
are present and the number of panels. An estimate of the total number of elements is also
given; the general numeric categories used on IMACS Rock Art Attachment forms have been retained. The rock art styles present, the associated date ranges, and the imagery are also discussed. This information is juxtaposed with the associated archaeology.

Rock art imagery depicting atlatl and dart are classified as pre A.D. 500 and depictions of the bow and arrow are classified as post A.D. 500; if the imagery is not illustrated in the figures, it is not included in the temporal data for the site. In addition to the rock art styles that are the focus of this study there may also be other rock art styles present that are not discussed (e.g., abstract styles).

**Other Relevant Data**

Wherever possible available data that provide insight to site function and use are indicated. This includes: architecture, vegetation/organic remains, textiles, ground stone, debitage (general numeric categories from IMACS or rounded counts are presented in this thesis), hearths, storage features, and so forth.

**Test Cases**

There are many more rock art sites present in each of the sub-areas than are discussed in the following data chapters. In all, 48 sites are discussed, 14 from Indian Creek, eight from Sevenmile Canyon, 12 from the Portal Area, and 14 from the Mill Creek Area (Figure 6.2).
Figure 6.2. Proportion of Selected Sites for the Sub-areas.

Indian Creek (Chapter 7) has a high frequency of Fremont or Fremont-like rock art associated with Mesa Verde Anasazi-affiliated habitation sites. In contrast, Sevenmile Canyon (Chapter 8) contains overwhelmingly the Barrier Canyon Style and has almost no imagery indicating the Fremont and Anasazi presence, in contrast to the archaeological record. The Portal Area (Chapter 9) has an affiliation with the Mesa Verde Anasazi based on the archaeological record, while many of the rock art sites are considered to be affiliated with both Fremont and Anasazi groups. The Mill Creek Area (Chapter 10) contains rock art affiliated with a variety of groups, with an archaeological record that indicates a primary affiliation with Mesa Verde Anasazi. There are linkages in the rock art imagery between the Portal Area and the Mill Creek Area. For each of these sub-
areas a selected number of sites are highlighted, with an emphasis placed on artifact chronology and cultural affiliation.
CHAPTER 7: INDIAN CREEK

Indian Creek (Figure 1.1; Figure 7.1) contains dichotomous indicators of cultural affiliation depending on whether one is looking at the rock art or the non-rock art record. The archaeological materials located in Indian Creek and surrounding areas of southeastern Utah suggest a cultural affiliation with Mesa Verde Anasazi, followed by a light signature for Kayenta Anasazi, and minimal indication of Fremont affiliation. In contrast, there is a high frequency of Fremont or Fremont-like rock art. As Indian Creek is located south of the Fremont heartland, the regularity of San Rafael Style anthropomorphs at habitation sites with Mesa Verde affiliation has significant implications.

Figure 7.1. Looking along Indian Creek (photograph by author).
**Environmental Setting**

Indian Creek lies in the Inner Canyonlands section of the Colorado Plateau physiographic province (Stokes 1986). Elevations range from less than 1,219 m (4,000 ft) asl in the Colorado River canyon to over 1,829 m (6,000 ft) asl at Harts Point. It is a perennial tributary to the Colorado River, and drains most of the eastern and northern parts of the region and the nearby Abajo Mountains.

The escarpments along Indian Creek are of Wingate Sandstone, a dark red to dark orange geologic formation that is now cliff-forming and commonly stained with desert varnish. Underlying the Wingate Sandstone are Chinle slopes composed of gray, red, pink, orange, and purple mudstone, sandstone, minor conglomerate, and some thin limestone (Anderson and Sprinkel 2000; Draut 2005; Hurlow and Bishop 2003).

In some areas, the Kayenta Formation overlaps the Wingate Sandstone with thinly laminated to thickly bedded red-brown to lavender-gray fluvial sandstones interbedded with siltstone, limestone, and shale units (Draut 2005). This formation provides some protection to the underlying Wingate Sandstone (and associated rock art) through its greater resistance to erosion (Williams 2000).

In general, this area ranges from rocky outcrops to upland sandy loams on mesa tops, to talus slopes along the bottom of canyon walls, to various sandy loams along the valley, with alkali flats, and semiwet salt streambanks and deep loams along the length of Indian Creek. The associated vegetation communities range from pinyon-juniper communities in the higher elevations, to mixed desert scrub and salt desert scrub communities along the valley slopes, with riparian zones along the bottom of the valley (Lammers 1991).
In prehistoric times, Indian Creek was important as both a travel corridor and for its arable land with perennial water (Sharrock 1966). Along the length of Indian Creek, and in the neighboring North Cottonwood, Lavender, Davis, and Shay Canyons there are numerous prehistoric ruins and rock art sites. Most of the rock art sites are associated with short-term habitation structures.

**Early Explorations**

The Claflin-Emerson archaeological expedition, from 1927 to 1931, is one of the earliest explorations into the area. As part of a larger regional project this expedition documented several sites in Indian Creek and in the neighboring Salt Creek. Overall, the expedition members found that the sites in this area are Mesa Verde in affiliation and date between A.D. 1150 to 1250 (late Pueblo II to early Pueblo III times) (Gunnerson 1969).

From 1965 to 1966, Aikens and Sharrock conducted a survey of the Needles District of the Canyonlands National Park, which included the mouth of Indian Creek and portions of Salt Creek. Similar to the Claflin-Emerson expedition, Sharrock (1966) reported the dominate affiliation to be Mesa Verde, although with a slightly different range, which dates between A.D. 1075 to 1150 (late Pueblo II to early Pueblo III).

In contrast to the dominant Mesa Verde signature, Sharrock (1966) observed a contradictory situation where Fremont imagery is repetitiously present at habitation sites with strong indicators of affiliation to the Mesa Verde Anasazi. The presence of Mesa Verde Anasazi in this area is considered part of a general northern geographical
expansion into southern Utah as part and parcel of a population explosion (Sharrock 1966; Thompson 1979; Pierson 1981).

**Big Sheep Ruin Site (LS 14-11, 42Sa1563)**

The descriptions of the rock art/habitation sites along Indian Creek (LS 14-2, LS 14-3, LS 14-4, and LS 14-5) from the Claflin-Emerson expedition lack enough detail to reconnect with later recordings. A site from neighboring Salt Creek, LS 14-11 also known as Big Sheep Ruin and 42Sa1563 is one example where subsequent recordings have been linked with the earlier records from the Claflin-Emerson expedition (Figure 7.2). The Big Sheep Ruin, a village is noteworthy for the diversity and number of material goods and underscores the paradox found in this area—Mesa Verde affiliated habitations with Fremont-like rock art.

The Claflin-Emerson expedition found 10 habitation rooms and several smaller storage rooms at the site. The rooms are constructed of unshaped, mortar-laid stone and tend to be square. The roofs were constructed of poles, rushes, adobe, and in some cases large stones were also incorporated. The ceramic assemblage is composed of Mesa Verde types and has a targeted date between A.D. 900 and 1200. Other artifacts include a pottery whorl, a plain weave yucca sandal, a yucca pot rest, a twined rush mat, and several corncob stems (Gunnerson 1969). Subsequent investigations revealed the presence of corncobs and cucurbita (gourds), and additional Mesa Verde affiliated ceramics (Chandler 1990) that have a targeted date between A.D. 1150 and 1200.
Sharrock (1966) also noted presence of trapezoidal-bodied pictographs with body ornamentation and negative-painted handprints, located on the back wall of the shelter. Figure 7.3 illustrates the distinctive San Rafael Style (Fremont) or the Faces Motif pictographs, which are very similar to Figures 7.8 and 7.9 (see the following Fremont Imagery section). There are also numerous pictograph and petroglyph images including both representational and abstract forms (Chandler 1990).
As part of a stabilization project, limited archaeological excavations were conducted in the mid 1980s. The excavation revealed a substantial number of structures and a diverse artifact assemblage. The alcove is rather large and measures 95 m (312 ft) long and ranges from 1 m (3 ft) to 6 m (20 ft) wide. There are 28 structures, which includes six habitations, 20 storage features, and several undeterminable features (Figure 7.4). All of the structures vary in use of masonry and mortar (e.g., dry-laid, wet-laid, and plaster), and lack of patterning in size and shape (e.g., D-shaped, rectangular, and oval). A population estimate based on the floor area indicates that as many as 20 people may have lived there. For this small group it was most likely a permanent residence and is one of the largest sites in the area (Chandler 1990).
The recovered artifact assemblage indicates a wide range of activities at this site. Artifacts include ceramics, clay figurines, a pendant, lithics, ground stone, and numerous bone tools, cordage, and leather fragments. The majority of the ceramic sherds (~300)
are Pueblo II and Pueblo III types and have a targeted date between A.D. 1200 to 1300. Several unfired clay figurine fragments were recovered (Figure 7.5, a-b), suggesting on-site manufacture of clay figurines. A bighorn sheep head pendant, carved from a bighorn sheep phalanx, was also present (Figure 7.5, c). On-site manufacture of textiles is evident in the presence of spindle whorls, cotton seeds, cotton cordage and cloth, and loom anchors. Multiple ground stone fragments and bedrock-grinding slicks were present throughout the site. The subsistence for the inhabitants of this site was horticulturally based, but with a reliance on wild resources as well (Chandler 1990).

Lithic material included debitage (900+ pieces) and six projectile points. Figure 7.6 illustrates the Bull Creek (A.D. 950 to 1250), Elko Eared (1300 B.C. to A.D. 700), and Northern Side-notched (5200 to 2400 B.C.) projectile points recovered (Holmer 1986). Other artifacts present include basketry, quids, arrowshafts, worked wood,
gaming pieces (typically attributed to Fremont or Basketmaker groups), and a painted squash rind pendant (Chandler 1990).

In addition, charcoal samples were taken from within several structures and submitted for radiocarbon dating. A sample taken from a hearth in Structure 10 dated from cal A.D. 1163 to cal A.D. 1300, and a sample from a hearth in Structure 12 dated from cal A.D. 1041 to cal A.D. 1280. Taken together these samples average from cal A.D. 1164 to 1282 (Chandler 1990).

Figure 7.6. Projectile Points from Bighorn Sheep Ruin: (a-d) Bull Creek; (e) Elko Eared; (f) Northern Side-notched (from Chandler 1990).
The main occupation of Big Sheep Ruin appears to have occurred during the 11th and 12th centuries (late Pueblo II to early Pueblo III times) by Mesa Verde groups. There is some support for an earlier occupation based on some of the ceramic types present, such as Mancos Gray (A.D. 875 to 980) and Mancos Black-on-White (A.D. 950 to 1150) although these sherds occur in low frequencies.

The artifact assemblage indicates a primary affiliation with Mesa Verde groups; however, there are a few caveats. The most frequent type of projectile points are Bull Creek points, which are the most common types of points found at Fremont and Kayenta sites. There are also gaming pieces, typically found at Fremont or Basketmaker sites. The ceramic assemblage is overwhelmingly composed of Mesa Verde types with a few sherds of Kayenta types. Most noteworthy, however, is the presence of Fremont or Fremont-like rock art imagery.

**Fremont Imagery**

The stylistic canon for of anthropomorphic forms in this area is strikingly consistent with San Rafael styles, typically associated with the Fremont (Figure 7.7). The hallmark of Fremont rock art is a conventionalization of broad-shouldered figures with a tapering torso and elaborate ornamentation includes a variety of production methods, petroglyphs, pictographs, or both (i.e., combination) within a single figure (Schaafsma 1980).
Certain rock art imagery with exceptional semblance to Fremont rock art images, outside of the Fremont heartland, are ascribed to the Faces Motif (Figure 7.8). Noxon and Marcus (1985) find that the Faces Motif is associated with a 11th to 12th century (late Pueblo II-III) Anasazi occupation in the Canyonlands. Other researchers such as Tipps and Hewitt (1989) propose that the Faces Motif merits a style designation and should be referred to as the Faces Motif Anthropomorphic Style.
The body shape and the details of the ornamentation of the Faces Motif are also noticeably similar to the well-known Fremont Pilling figurines and other lesser-known clay figurines, typically associated with the Fremont. Figure 7.9 displays a Fremont clay figurine from Nine Mile Canyon (left), located within the Northern San Rafael Style zone (center), a clay figurine from the San Rafael Swell, located on the Southern San Rafael Style zone, and a clay figurine from Range Creek (right), located within the Northern San Rafael Style zone. For many of these figurines, the anatomy, dress, and hairstyle clearly indicate the sex of the figurine—both sexes wear necklaces and belts.

Figure 7.8. Faces Motif at Five Faces (site 42Sa7736), in the Canyonlands National Park (from Fowler and Fowler 2008; photograph by J. Duffield).
Figure 7.9. Fremont Clay Figurines: left, Nine Mile Canyon (from Fowler and Fowler 2008); center, San Rafael Swell (from Madsen 1989); and right, Range Creek (from Kloor 2006).

My discussion now turns to 11 selected rock art sites. Each site is discussed with consideration placed on the possible cultural affiliation(s) and date range(s) of the rock art, architecture, and artifact assemblages. These findings are summarized in Table 7.1.

Selected Rock Art Sites

Indian Creek and the nearby areas are considerably diverse in the rock art styles present, which range from Archaic to times that are more recent. Although these styles vary in temporal placement and cultural association(s), they have an underlying connection—an emphasis on anthropomorphic forms. There are two well-known Indian Creek rock art sites, Newspaper Rock and the Shay Canyon Mastodon Site.
## Table 7.1. Selected Rock Art Sites in Indian Creek.

<table>
<thead>
<tr>
<th>Site Name/Number</th>
<th>Architecture</th>
<th>Ground Stone</th>
<th>Lithics</th>
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<th>Kayenta</th>
<th>Fremont</th>
<th>Unknown</th>
<th>Barrier Canyon Style 5</th>
<th>Uncompahgre</th>
<th>Raku</th>
<th>Anasazi-Pueblo</th>
<th>Anasazi-Abajo</th>
<th>Anasazi-La Sal</th>
<th>San Rafael</th>
<th>Depiction of Weaponry</th>
<th>Radiometric (calibrated)</th>
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Newspaper Rock Site (42Sa1888, Indian Creek #3)

Newspaper Rock is a panel extensively covered with hundreds of petroglyph elements and is extensively repatinated (Figure 7.10). The images present range from prehistoric to historic times and reflect contributions by various groups. Schaafsma (1970) proposed at least two periods of manufacture by two distinctive groups. She reports on anthropomorphs that are of the Southern San Rafael Style and indicates that the manufacture was between A.D. 1000 to 1150. She also found contributions by modern Utes and suggested that these images date from A.D. 1700 onward judging by the appearance of horses. Schaafsma also proposed that several of the Ute images appeared to be copies of the earlier Fremont figures, albeit with their own stylistic additions.

Alternatively, Castleton found that several styles are represented, mostly Anasazi, some Fremont, and modern Ute also occurs (1979:198-199), while Cole (1990:241-243) proposed that the heavily patinated figures are probably Pueblo II-III Anasazi and later additions are attributable to modern Ute, representing both Early and Late Ute styles. I propose that the styles present are Pueblo, some Uncompahgre, and a few San Rafael, overlaid with modern Ute contributions. There are no known archaeological materials in association.
Shay Canyon Mastodon Site (42Sa5329, 42Sa7723, 42Sa13792, 42Sa13820, 42Sa13822, and Indian Creek #2)

Shay Canyon, a tributary of Indian Creek, is known for the Shay Canyon Mastodon Site located about two miles west of Newspaper Rock. Varying portions of this site have been recorded as 42Sa5329; 42Sa7723; 42Sa13792; 42Sa13820; 42Sa13822; and Indian Creek #2. This is a habitation site with multiple rock art panels. Ceramic sherds present at this site have a general date between A.D. 450 and 1300 and cultural affiliation was not determined (Castleton 1973). Other artifacts include debitage (~1-9 pieces) (Emery 1983). This is an extensive site (or several sites) with several styles and ages of rock art, including general Basketmaker, Pueblo, and San Rafael figures,
which date between 100 B.C. and A.D. 1300. There are many anthropomorphs including panels with flute players, and numerous animals—deer/elk, bighorn sheep, and birds. Several anthropomorphs in Figure 7.11 (left and right) are San Rafael Style.

![Figure 7.11. Shay Canyon Mastodon (adapted from Castleton 1973).](image)

The most notorious figure at this site is the “mastodon” element, but as the head and limbs have been altered, it is unlikely to be a mastodon (Figure 7.12). Furthermore, the mastodon element has a level of repatination similar to other nearby elements, indicating that it is not of greater age than the other elements. Castleton (1979:199-203) also questioned the possibility that this represents a mastodon.
Site 42Sa13796

Site 42Sa13796 is a habitation site with five petroglyph panels (~10-19 elements) and one pictograph panel (~1-9 elements) (Emery 1983; Manning 1981). Ceramics at this site are corrugated (A.D. 900 to 1300) sherds and cultural affiliation was not determined. Rock art styles are general Basketmaker, Pueblo, and San Rafael, which date between 100 B.C. and A.D. 1300. Images that are classifiable as San Rafael in style are placed on prominent surfaces and are viewable from a distance (Figure 7.13; Figure 7.14). There is also imagery with a hidden face, illustrated in Figure 7.15, where pictographs were placed within a small overhang and are only viewable in close proximity.
One circular, shield element with concentric bands is present at Panel E, site 42Sa13796 (Figure 7.16). Schaafsma (2000:18-19) proposed that concentric shield patterns are common in the Canyonlands area. This shield is also similar to other shields at site 42Sa13804 (Figure 7.22) and site 42Sa20489 (not pictured).
Figure 7.15. Site 42Sa13796—Panel F (photograph and illustration by author).

Figure 7.16. Site 42Sa13796—Panel E (photograph and illustration by author).
Site 42Sa13797

Site 42Sa13797 is a habitation alcove site with a multi-room dwelling with at least three rooms (Figure 7.17) and a midden (Emery 1983; Manning 1982). There are six petroglyph panels (100+ elements) and a pictograph panel (~1-9 elements), which exhibit a wide variety of styles. Rock art styles indicate an affiliation with general Basketmaker, San Rafael, and Pueblo, which date between 100 B.C. and A.D. 1300. The ceramics present are Mancos Gray (a Mesa Verde ware dating from A.D. 875 to 980), black-on-white (A.D. 500 to 1300), grayware (A.D. 450 to 1300), and corrugated (A.D. 900 to 1300) sherds. The assemblage is generally affiliated with the Mesa Verde branch Anasazi and has a targeted date between A.D. 875 and 980. Other artifacts include an unknown projectile point (post A.D. 500), debitage (~10-25 pieces), and ground stone.
Most of these panels are highly visible, excluding the weathered, indiscernible pictograph panel situated at the back of the alcove. Panel G is highly complex with several different periods of contributions by differing groups (Figure 7.18). Cole (1990:167) considers Panel G to contain Pueblo II–III petroglyphs, based on the large-bodied anthropomorphs similar to Fremont rock art styles and figurines. Also present are a row of backpacker figures, and a Basketmaker style anthropomorph with exaggerated feet. Panel D at Site 42Sa13797, just to the right of Panel G, also has several San Rafael
anthropomorphs and an insect (Figure 7.19). Panel E contains multiple circles with dots in the center, a centipede/millipede, a snake, and other abstract images (Figure 7.20).
Site 42Sa13804

Site 42Sa13804 is a habitation site with four petroglyph panels (~50-59 elements) (Emery 1983). It has dry-laid masonry structures made from reshaped stones—a cist and a single-room structure. Lithics include an unknown projectile point (post A.D. 500), core, scraper, biface, and debitage (~10-25 pieces). Ceramics present at the site include black-on-white (A.D. 500 to 1300), grayware (A.D. 450 to 1300), and corrugated (A.D. 900 to 1300) sherds. These ceramics have a targeted date between A.D. 900 and 1300 and cultural affiliation was not determined. Rock art styles are general Basketmaker (100 B.C to A.D. 750), Pueblo (A.D. 700-1300), San Rafael (A.D. 700-1250), and Abajo-La Sal. This site is one of the archetypes for the Abajo La-Sal Style, which Cole (1990:160) dates between pre A.D. 1 and 1000 (Figure 7.21; Figure 7.22). This site is discussed further along with the other “type-sites” for the Abajo-La Sal Style in Chapter 11 (Integration and Conclusion).
Site 42Sa13807

Site 42Sa13807 is a small, single-room habitation site with at least four rock art panels (~60-69 elements) (Emery 1983). Lithic artifacts include an unknown projectile point (post A.D. 500), several bifaces, and debitage (~25-100 pieces). There are two mortar-laid granaries on opposite ends of the site. Rock art styles present include San Rafael, Pueblo, and Ute styles, these images date from A.D. 700 to times that are more recent. Figure 7.23 (left) illustrates several large San Rafael Style anthropomorphs. Cole (1990:170-171) finds that shield representations are common in the Canyonlands and proposes that the shield anthropomorph in Figure 7.23 (right) dates from the Pueblo II-III
period; there are also some Pueblo or possible Ute zoomorphs. The ceramics present include Mesa Verde Black-on-White (A.D. 1150 to 1300), corrugated (A.D. 900 to 1300), grayware (A.D. 450 to 1300), and black-on-white (A.D. 500 to 1300) sherds. The ceramics have a targeted date range of A.D. 1150 to 1300. In contrast to the rock art (San Rafael and Pueblo), the ceramics point to a Mesa Verde affiliation.

Site 42Sa13861

Site 42Sa13861 is a shallow rockshelter with a single petroglyph (~20-29 elements) and pictograph (~20-29 elements) panel (Kreutzer and Rago 1983). The panel extends across the rear wall and consists of petroglyphs overlaid on top of pictographs (Figure 7.24; Figure 7.25). The rock art imagery at this site is not distinctive of a particular style. Artifacts include a biface, debitage (~100-500 pieces), ground stone, and ceramics. The ceramics present include Mancos Gray (A.D. 875 to 980), Mancos Corrugated (A.D. 900 to 1200), and Mancos Black-on-White (A.D. 980 to 1150). These ceramics are all Mesa Verde in affiliation and have a targeted date between A.D. 875 and 980. There are also vegetation/organic remains and a hearth.
Figure 7.24. Site 42Sa13861, Petroglyphs and Pictographs below the overhang (photograph by author).

Figure 7.25. Site 42Sa13861, Pictographs overlaid with Petroglyphs (photograph and illustration by author).
**Boulder Top Village Site (42Sa13859)**

There are several sites in the vicinity of 42Sa13861 that appear to be related. One of these sites is Boulder Top Village Site, a habitation site with an extensive array of artifacts and features (Jennings and Foster 1983). There is one multi-room structure that has three mortar-laid walls, which abut a large boulder, and on the other side of the boulder there is also another single-room mortar laid structure. Other architectural features include three structures on sandstone outcrops, 12 wall remnants located in small alcoves, two granaries, and step features. Lithic artifacts include an unknown projectile point (post A.D. 500), scrapers, and debitage (2,000+ pieces). Other artifacts include fire-cracked rock, several pieces of ground stone, corncobs, and a ceramic pipe stem.

There are over 1,000 ceramic sherds of various Mesa Verde affiliated types, which have a targeted date between A.D. 1150 and 1200. The ceramic present include Mesa Verde Black-on-White (A.D. 1150 to 1300), McElmo Black-on-White (A.D. 1075 to 1275), Mancos Corrugated (A.D. 900 to 1200), and Mesa Verde Corrugated (A.D. 1100 to 1300) sherds.

Boulder Top Village also has three pictograph rock art panels (~30-39 elements). Rock art styles are general Pueblo, which dates between A.D. 700 and 1300. Of these panels, Panel 3 (a white pictograph panel) is intriguing due to the similarity to designs found on Mesa Verde Black-on-White (A.D. 1150 to 1300), Mancos/McElmo Black-on-White (A.D. 900 to 1275) or McElmo/Mesa Verde Black-on-White ceramics (A.D. 1075), which are all Mesa Verde in affiliation. Figure 7.26 illustrates the similarities of the pictograph panel (left) and ceramic decorative designs (right).
Figure 7.26. Similarities in Rock Art and Ceramic Design Motifs (site 42Sa13859): left, Panel 3 (adapted from Jennings and Foster 1983); upper right, Mesa Verde Black-on-White bowl (from Dittert and Plog 1980); center right, McElmo Black-on-White bowl; and lower right, Mancos Black-on-White olla (from Breternitz et al. 1974).

Site 42Sa20493

Site 42Sa20493 has 13 petroglyph panels (100+ elements) (Manning 1982). Rock art styles are general Basketmaker, Pueblo, and San Rafael, which date between 100 B.C. and A.D. 1300. Panel J has numerous anthropomorphs and zoomorphs that are Pueblo in style (Figure 7.27). Panel D has two anthropomorphs that are San Rafael Style (Figure 7.28). There are no known archaeological materials in association.
Figure 7.27. Site 42Sa20493—Panel J (photograph and illustration by author).

Figure 7.28. Site 42Sa20493—Panel D (photograph and illustration by author).

The Macaw Site (42Sa20494) and the Broken Tail Macaw Site (42Sa20496)

Images of macaws are present at the Macaw Site and the Broken Tail Macaw Site (Figure 7.29, left). There are no known archaeological materials in direct association with these sites (Manning 1982). However, the distinctive macaw images may have linkages to archaeological artifacts recovered in the area. In 1954, a macaw feather and squirrel pelt sash was recovered from a site in Lavender Canyon, adjacent to Indian Creek (Figure 7.29, right) (Hargrave 1979). The sash is composed of twelve yucca fiber ropes that are approximately 1.2 m (3.9 ft) long, and covered with over 2,300 adult macaw feathers.
(Ara macao) attached to a buckskin strap and overlaid at the top with a tassel-eared squirrel pelt (Sciurus aberti). Based on the method of feather attachment, Hargrave (1979) proposed that it was manufactured in Mexico during the twelfth century and that the squirrel pelt was added afterwards.

Figure 7.29. Macaw imagery and Macaw Feather and Squirrel Pelt Sash: upper left, the Macaw Site (42Sa20495) (photograph and illustration by author); lower left, the Broken Tail Macaw Site (42Sa20496) (adapted from Manning 1982); and right, Macaw Feather and Squirrel Pelt Sash from Lavender Canyon (from www.hp.uab.edu).
Subsequent research by Borson et al. (1998) resulted in an AMS date of 920 ± 35 B.P., which roughly calibrates to A.D. 1080 to 1110 (Lekson 1999). They also conducted an extensive gene sequencing of the squirrel pelt. Based on the genetic closeness to subspecies in the American Southwest and genetic distance from Mexican subspecies they proposed that the sash was manufactured in the American Southwest from both local (i.e., buckskin, squirrel, and yucca) and nonlocal (i.e., macaw) materials. Contrary to Hargrave’s (1979) position, Borson et al. (1998) found the squirrel pelt to be an integral component to the design and construction of the artifact and not added later.

According to Lekson (1999), macaws serve as a loose proxy for the panoply of exotic materials indicative of a Chacoan influence over a large region—the Chaco Phenomenon. There are several Chacoan outliers, that is great houses and great kivas, located within the Mesa Verde Anasazi cultural area in southeastern Utah (Figure 7.30). Examples include the Edge of the Cedars (Hurst 2000), Cottonwood Falls (Mahoney 2000), and the Bluff Great House (Jalbert and Cameron 2000). To put this in perspective the Edge of the Cedars is roughly 220 km (137 mi) from Chaco and is only 30 km (19 mi) or less, from these sites.
White Hands Boulder Site (42Sa20497)

White Hands Boulder Site, is a small alcove habitation site with 14 petroglyph panels (~30-39 elements) and one pictograph panel (~1-9 elements) (Manning 1982). The ceramic present are corrugated (A.D. 900 to 1300) sherds, and cultural affiliation was not determined. Other artifacts include shaped stone, ground stone, and debitage (~1-9 pieces). Rock art styles are general Basketmaker, Pueblo, San Rafael, and Ute, which date from 100 B.C. to more recent times. Panel C contains several abstract figures, a zoomorph, and a possible headdress; the images appear to be Ute in style.
Panel E has several stylized zoomorphs, abstract elements, and anthropomorphs. The anthropomorphs are general Basketmaker in style (Figure 7.32).

Panel H, located within the small alcove, is a pictograph panel of vertical and horizontal sets of negative white handprints (Figure 7.33). Directly underneath Panel H on the ground at the opening of the alcove is a boulder metate with abstract petroglyph elements (Figure 7.34). Along the back of the alcove, there is a row of 18 pecked dots (not pictured). Panel I and J are higher along the cliff face (Figure 7.35). Panel I has two
San Rafael anthropomorphs and Panel J is a triangular bodied anthropomorph with a concentric circle emanating from its head.

Figure 7.33. White Hands Boulder—Panel H (photograph and illustration by author).

Figure 7.34. White Hands Boulder—Panel M (photograph and illustration by author).
Site 42Sa20498

Site 42Sa20498 has two petroglyph panels (~1-9 elements) and a masonry structure (Manning 1982). The single-room masonry structure appears to be a granary constructed with shaped stone; the difficult access precludes further observations. Rock art styles include San Rafael, Pueblo, and Ute dating to A.D. 700 onwards. There are also more recent Ute and European/American historic additions placed on top of faint shield anthropomorphs (Figure 7.36). The shield anthropomorphs are similar to those at site 42Sa13807, where Cole (1990:170-171) proposed that shield representations date to Pueblo II-III times.
Summary of Selected Sites

These examples exemplify the diversity and range of sites found along Indian Creek and there are several common trends illustrated in Table 7.1. One trend is multiple panels with a copious numbers of elements representing several rock art styles. Most of these rock art sites are short-term habitations with associated artifacts. The ceramic assemblages at these sites indicate a primary affiliation with Mesa Verde Anasazi. However, most of the sites indicate affiliation to both Fremont and Anasazi groups based on rock art styles. One of the most significant implications of the ceramic data set is the potential refinement of occupational ranges. The ceramic date ranges and the date range for the rock art styles have some degree of overlap, with the noted exception of site 42Sa13804 (an Abajo-La Sal Style “type-site” discussed further in Chapter 11). Of particular interest are the early Mesa Verde ceramics, which date between A.D. 875 and 980. This may be suggestive of an earlier, low-level wave of Mesa Verde movement into the area during the 9th and 10th century (late Pueblo I to early Pueblo II times) before the 11th and 12th century (late Pueblo II to early Pueblo III) immigration into the area.
CHAPTER 8: SEVENMILE CANYON

The rock art record for Sevenmile Canyon (Figure 1.1; Figure 8.1) is predominately Barrier Canyon Style, which is widely considered to be an Archaic rock art style. The non-rock art record indicates short-term occupations that began in the Late Archaic with later short-term occupations by Fremont, Anasazi, and Numic groups. Although the archaeological assemblages indicate the presence of both Fremont and Anasazi groups, the rock art record generally lacks associated imagery from those groups. In particular, the non-rock art record in Sevenmile Canyon hints of Fremont presence and/or interaction that is generally lacking in the rock art record.

Figure 8.1. Looking towards Sevenmile Canyon, the canyon walls are visible in the background and run between the two mesas (photograph by author).
Sevenmile Canyon is well-known for its concentration of sites with the Barrier Canyon Style rock art, particularly petroglyphs. Typically, pictographs are more common than petroglyphs in Utah (Cole 1990:71). Other concentrations of this style are located around the San Rafael Swell and in the Canyonlands National Park. Figure 8.2 is one example of Barrier Canyon petroglyphs located along Sevenmile Canyon.

![Barrier Canyon Style Petroglyphs, Sevenmile Canyon](photograph by K. Clawson).

I begin this chapter with a summary of the geologic setting of Sevenmile. I then highlight selected rock art sites and explore the cultural affiliation(s) and date range(s) for these sites based on the rock art styles, artifacts, and architecture present at each of the sites. I end this chapter with a summary of the selected sites.
Environmental Setting

Sevenmile Canyon lies in the Salt Anticline subdivision of the Colorado Plateau physiographic province (Stokes 1986). Elevations range from less than 1,390 m (4,560 ft) asl to over 1,839 m (6,035 ft) asl. Sevenmile Canyon is a mature secondary drainage system that is a tributary to the Colorado River, and it flows intermittently, but there are permanent springs and seeps (Reed 1990).

The escarpments along Sevenmile Canyon are of the Kayenta Formation, a thinly laminated to thickly bedded red-brown to lavender-gray fluvial sandstones interbedded with siltstone, limestone, and shale units (Draut 2005), which are now cliff-forming and commonly stained with desert varnish. The Moenkopi Formation underlies this formation and is composed of sediments that reflect fluvial deposition and tend to form slopes and ledges. At the mouth of the canyon, the canyon walls are also of the Chinle Formation, which is composed of gray, red, pink, orange, and purple mudstone, sandstone, minor conglomerate, and some thin limestone (Anderson and Sprinkel 2000; Davis et al. 1989; Draut 2005; Hurlow and Bishop 2003). The Chinle Formation is not present elsewhere, leaving an unconformity at the contact of the Moenkopi and Kayenta formations. There are also remnants of the Navajo Sandstone consisting of residual knobs, buttes, and mesas. Navajo Sandstone often forms cliffs and ranges in color from pale-orange, to white, to shades of vermillion, composed of aeolian sands with occasional interdune deposits (Draut 2005).

In general, this area ranges from rocky outcrops and slick rock without sediments, to thin aeolian deposits on mesa tops, to alluvial terraces of Quaternary soils, to alkali semidesert sandy/stony loams along the canyon bottom. The associated vegetation
ranges from pinyon-juniper communities in the higher elevations, to mixed desert scrub and salt desert scrub communities, and a limited riparian zone along the canyon bottom (Davis et al. 1989; Reed 1990).

In prehistoric times, Sevenmile Canyon supported a wide variety of wild plant resources, with some evidence of domesticates (i.e., corn) that were utilized by past populations. Many of the sites in Sevenmile Canyon are short-term use, multicomponent sites, that is, sites characterized by short-term occupations with subsequent short-term occupations over a long time period.

**Early Explorations**

Limited archaeological inventory and testing has been conducted along Sevenmile Canyon; however, these partial investigations have revealed a relatively high site density. Despite the limited investigations, the area yields a relatively rich data set as many of the sites have undergone extensive testing, specifically excavation. Sites range from lithic scatters to short-term open camps and rockshelter/alcove habitations. The ephemeral nature of the sites is evident in the general lack of investment in architectural features or structures with a few noteworthy exceptions. One example is an unidentified site where a split-twig figurine was recovered. Split-twig figurines are typically constructed from a thin branch that is split, bent, folded, and wrapped into the shape of an animal. Figurines are considered to be Archaic in age and are often used as supporting evidence as to the antiquity of the Glen Canyon Style 5 (Figure 3.3, right).
**Unidentified Split-Twig Figurine Site**

The figurine illustrated in Figure 8.3, was recovered from a large rockshelter along Sevenmile Canyon (Pierson and Anderson 1975; Pierson 1981:131). The rockshelter measures approximately 76 m (250 ft) by 10 m (35 ft). Against the back wall of the rockshelter there was a structure composed of a low semi-circular, unmortared rock wall approximately 3 m (10 ft) by 3 m (10 ft). Scattered throughout the shelter there was evidence of use of both domestic (i.e., corn) and wild plants, plus faunal fragments and ground stone. There were also several looter holes, indicating that other artifacts may have been removed.

![Figure 8.3. Split-Twig Figurine (from Pierson and Anderson 1975).](image)

My discussion now turns to eight selected rock art sites. Each site is discussed with consideration placed on the possible cultural affiliation(s) and date range(s) of the rock art, architecture, and artifact assemblages. These results are summarized in Table 8.1.
Table 8.1. Selected Rock Art Sites in Sevenmile Canyon.

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<th>Ground Stone</th>
<th>Lithics</th>
<th>Ceramics</th>
<th>Mesa Verde</th>
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Archeology | Ceramics (A.D.) | Rock Art Style | Other Temporal Data

- Depiction of Weaponry
- Radiometric (calibrated)
- Other Temporal Data

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- Depiction of Weaponry
- Radiometric (calibrated)
- Other Temporal Data

- 1100 BC
- 1000 BC
- 370-10 BC
- A.D. 305-1325
Selected Rock Art Sites

Rock art styles present in Sevenmile Canyon range from Archaic to more recent times. These styles include Barrier Canyon Styles, Glen Canyon Style 5, and Uncompahgre, with a low levels of Basketmaker, Pueblo, and San Rafael. There is an overarching emphasis on anthropomorphic forms and the majority of the imagery for this area is stylistically consistent with the canons of the Barrier Canyon Style. One of the well-known sites in the area is the Bartlett Flats Pictograph Alcove Site.

**Bartlett Flats Pictograph Alcove Site (42Gr42, 42Gr382)**

The Bartlett Flats Pictograph Alcove Site is a complex multicomponent site with a single pictograph panel (~1-9 elements) (Firor 2002). The images are Barrier Canyon Style, which dates to 1000 B.C. to A.D. 500. Figures 8.4 and 8.5 illustrate this panel, which is placed on a highly prominent surface and is quite visible as the largest element is approximately 1.4 m (4.6 ft) high by 0.75 m (2.5 ft) wide. Early documentation of this site, from the late 1940s onward, indicate the presence of metates, flake stone tools, yucca fiber, subsurface storage cists, as well as the rock art panel. However, the Bartlett Flats Pictograph Alcove has been impacted by looting activity and much of the previously documented cultural materials are no longer present.
In 2002, limited archaeological excavations revealed datable subsurface cultural deposits and artifacts which indicate several occupational sequences. The excavated artifacts and features include debitage (~50-100 pieces), ceramic sherds, lithic tools (~1-
9), and storage cists. The ceramics are San Rafael Fremont types, Ivie Creek Black-on-White (A.D. 700 to 1200) and Emery Gray (A.D. 700 to 1200). The flaked stone tools include a biface and a corner-notched Archaic dart point (pre A.D. 500) (Figure 8.6, upper left). Each of the seven storage cists (Figure 8.6, lower left) were looted, but the number of cists indicates a reliance on stored resources (Firor 2002).

Several radiocarbon samples also support several occupational sequences. Two samples were taken from hearths, Feature 8 dated to cal A.D. 130 to cal A.D. 420 and Feature 9 dated to cal A.D. 230 to cal A.D. 530. Multiple samples were taken from different levels of a midden which dated 370 cal B.C. to cal 10 B.C., 1190 cal B.C. to cal 840 B.C., 1000 cal B.C. to cal 800 B.C., and 1110 cal B.C. to cal 840 B.C. (Firor 2002). In addition, an AMS sample taken from an exfoliated portion of the rock art panel dated to 340 cal B.C. to cal A.D. 10 (Tipps 1995:156-160). These dates cluster into three time periods based on radiocarbon and ceramic dates, which are 1190 cal B.C. to 800 cal B.C., 340 cal B.C. to cal A.D. 530, and A.D. 700 to 1200. In sum, the Bartlett Flats Pictograph Alcove Site represents a series of occupations punctuated by episodes of periodic abandonment over a considerable length of time.
The Legless Goat Site (42Gr307, 42Gr984)

The Legless Goat Site is a complex multicomponent habitation site with six rock art panels (Davis et al. 1989; Gunnerson 1958; Carpenter 1980; Castleton 1978:186-187). There are four petroglyph panels (Panel 1, 2, 3, and 6 with 100+ elements), one panel
with petroglyphs and pictographs (Panel 4, with ~11-20 elements), and one pictograph panel (Panel 5, with ~31-40 elements). Rock art styles include Glen Canyon Style 5 (Figure 8.7), which dates from 1000 B.C. to A.D. 500, Barrier Canyon (Figure 8.8), which dates from 1000 B.C. to A.D. 500), and Uncompahgre, which dates from 1000 B.C. to A.D. 1000.

![Figure 8.7. The Legless Goat—Panel A (photograph and illustration by author).](image)

Surface and subsurface cultural deposits contain a diverse artifact assemblage. Lithics include debitage (200+ pieces) dominated by late stages of reduction, several lithic tools, ground stone, and fire-cracked rock. The lithic tools include an unknown stemmed projectile point, three bifaces, a scraper, and a utilized flake. The artifact assemblage indicates multiple occupations with an emphasis on biface manufacturing and plant preparation (Davis et al. 1989). The array of rock art styles also indicates multiple contributions made over a considerable range of time.
Site 42Gr2196

Site 42Gr2196 is composed of three petroglyph panels (~60-69 elements) (Davis 1988; Manning 1985). Rock art styles are general Basketmaker (100 B.C. to A.D. 750) and perhaps general Pueblo (A.D. 700 to 1300) or San Rafael (A.D. 700 to 1250). Broad-shouldered, triangular bodies with short legs and downward curving arms characterize the general Basketmaker anthropomorphs at Panel A. Some of these figures have double horns, while others have a single horn or rounded heads (Figure 8.9, Figure 8.10). The imagery found at this site, both Panel A and Panel B, diverge from the imagery commonly found along Sevenmile Canyon, but are similar to anthropomorphs found in other areas around Moab.
Figure 8.9. Site 42Gr2196—Panel A (Area #11) (photograph and illustration by author).

Figure 8.10. Site 42Gr2196—Panel A (Area #2) (photograph and illustration by author).

Figure 8.11 illustrates the anthropomorphs at Panel B. Two anthropomorphs have solidly outlined bodies with a solid circle in the center, which rock art specialists usually associate with chest ornaments. The other anthropomorph is circular, solidly pecked and the upper regions are no longer discernable. Anthropomorphs with chest ornaments are found in Basketmaker and San Rafael styles as well as in the Faces Motif. There are no known archaeological materials in association.
Site 42Gr2215

Site 42Gr2215 a short-term habitation site with a lithic scatter and a single petroglyph panel (~1-9 elements) (Davis et al. 1989). The rock art images are of three bighorn sheep and do not conform to a particular style (Figure 8.12). Artifacts and features encountered during excavations include debitage (~25-100 pieces), two lithic tools, and a deflated fire hearth. The tools are a biface and a corner-notched Archaic dart point (pre A.D. 500), which has been reworked into another tool (Figure 8.13).
Site 42Gr2217

Site 42Gr2217 is a short-term habitation site with a single petroglyph panel (~1-9 elements) (Davis et al. 1989). The rock art style is Barrier Canyon Style, which dates to 1000 B.C. to A.D. 500. The two anthropomorphic images appear faintly on a darkly patinated boulder face (Figure 8.14). Artifacts and features include debitage (100+ pieces) a lithic scraper, fire-cracked rock, ground stone, and a hearth.
Site 42Gr2219

Site 42Gr2219 is a complex, multicomponent alcove habitation site with four petroglyph panels (100+ elements). The panels are primarily composed of clusters of tool grooves (Davis et al. 1989; Montgomery 1988). Rock art styles are Uncompahgre (Figure 8.15, left), which dates from 1000 B.C. to A.D. 1000, and a zoomorphic image that does not conform to any particular style (Figure 8.15, right).

There were numerous pothunter holes throughout the alcove, suggesting that the artifact assemblage recovered during excavations may be only a fraction of what was once present (Davis et al. 1989). Local accounts indicate that three baskets, a human burial, a split-twig figurine, and multiple stone tools have been removed from this site (Montgomery 1988).
A range of prehistoric activities is evident from the artifact assemblage. Excavations revealed intact subsurface cultural deposits that yielded an array of artifacts, including coiled basketry, a bone awl and worked bone fragments, carved wood, a bundle of sticks wrapped in narrow yucca leaf, a yucca bundle, leather, faunal fragments, lithics, a human fecal specimen, corncobs, and copious macrobotanical specimens (Davis et al. 1989).

Figure 8.16 illustrates two of the three projectile points recovered: a side-notched projectile point that dates to A.D. 800 to 1700, and a Rose Spring projectile point that dates to A.D. 300 to 1300 (Holmer 1986). In addition, there is also an unknown projectile point (post A.D. 500), two bifaces, a uniface, and debitage (~100-500 pieces). Ground stone includes seven bedrock metates and grinding troughs, and a well-shaped piece that may have been a lid for a pot (Davis et al. 1989).
Evidence of prehistoric subsistence pursuits are manifest in the macrobotanical samples and in human fecal material. The human fecal material contained hundreds of goosefoot seeds and dropseeds, with some crownbeard seeds, and over 30 bones and fur balls, probably from an individual pinyon mouse. Interestingly the seeds recovered from the fecal material do not show evidence of charring or grinding. Charred seeds recovered from archaeological sites are commonly considered to be cultural, while uncharred seeds are typically regarded to be modern contaminates; however, the presence of uncharred seeds in the fecal material suggests that this is not the case at this site. The macrobotanical sample (both charred and uncharred seeds) predominately contained goosefoot, dropseed grass, Indian ricegrass, pigweed, juniper, kochia, and prickly pear cactus along with smaller numbers of other plants. In sum, this site was repeatedly used as a long-term camp, where tool manufacture, processing of wild plant resources, basketry, and hide-working occurred (Davis et al. 1899).
**Site 42Gr2221**

Site 42Gr2221 is a petroglyph panel (~1-9 elements) that consists of two solid-outlined bird-like images (Figure 8.17). Davis et al. (1989) proposed that the images are stylistically similar to Puebloan rock art; however, the images also adhere to the stylistic canons found in Glen Canyon 5, which dates from 1000 B.C. to A.D. 500. Figure 8.7, at the nearby Legless Goat Site (classified as Glen Canyon Style 5) also contains a similar bird-like figure and is akin in construction methods and level of repatination. There are no known archaeological materials in association.

![Figure 8.17. Site 42Gr2221 (photograph and illustration by author).](image)

**Site 42Gr2224**

Site 42Gr2224 is a short-term habitation site with a single petroglyph panel (~1-9 elements) (Davis et al. 1989). The panel is a single quadruped that does not conform to a particular rock art style (Figure 8.18). Artifacts recovered during excavation include debitage (~25 pieces), and a subsurface hearth composed of oxidized sandstone slabs. This site may have served as a camp or as series of camps based on the presence of two possible cultural horizons.
Figure 8.18. Site 42Gr2224 (from Davis et al. 1989).

Summary of Selected Sites

These examples demonstrate the some of diversity and range of sites found along Sevenmile Canyon (Table 8.1). Although much of the rock art is Barrier Canyon Style, the highlighted sites illustrate some of the lesser-known imagery. The sites appear to have been used in a similar manner, primarily for short-term occupation by small groups of people that relied on wild resources. Subsequent occupations also followed this pattern. The stability of this pattern is interesting given that many different cultures occupied the region since the Late Archaic. There are several non-rock art sites in this area with Fremont affiliated ceramics (e.g., Horn et al. 1994; Reed 1990), in contrast to the primarily Archaic rock art record.
CHAPTER 9: THE PORTAL AREA

The Portal Area (Figure 1.1; 9.1), as defined in this thesis, includes the north and south banks of the Colorado River and Kane Springs Canyon, southwest of Moab. The Colorado River played a significant role in the lives of the prehistoric peoples in this area. Typically, Fremont rock art occurs north of the Colorado River, although it can also occur south of the river, usually in association with Anasazi rock art and archaeology (Cole 1990, 1992a).

Figure 9.1. Looking along Kane Springs Canyon (photograph by author).

The Colorado River is frequently used to demarcate a cultural boundary between the Fremont (to the north) and the Anasazi (to the south). This river is often cast as a
stark geographic and cultural barrier, however, in the Moab area there are several locales where the river can be forded with relative ease. The non-rock art record of this area indicates a primary cultural affiliation with Mesa Verde Anasazi. There is also a light Fremont signature and a very low signature for the Kayenta Anasazi.

I begin this chapter with a summary of the geologic setting of the Portal Area and then turn to early archaeological explorations into this area. The imagery in this area is discussed next. I then highlight selected rock art sites and explore the cultural affiliation(s) and date range(s) for these sites based on the rock art styles, artifacts, and architecture present at each of the sites. I end this chapter with a summary of the selected sites.

Environmental Setting

The Portal Area lies in the Salt Anticline subdivision of the Colorado Plateau physiographic province (Stokes 1986). Elevations range from less than 1,207 m (3,960 ft) asl to over 1,890 m (6,200 ft) asl. Kane Springs Canyon was formed by Kane Creek (also commonly referred to as Cane Creek), which is a tributary to the Colorado River.

The escarpments along the Colorado River are comprised of Navajo Sandstone and the Kayenta Formation, which are now cliff-forming and commonly stained with desert varnish. Navajo Sandstone is lightly hued, a white to pale orange geologic formation (Draut 2005; Hurlow and Bishop 2003). Underlying the Navajo Sandstone is the Kayenta Formation, a thinly laminated to thickly bedded red-brown to lavender-gray fluvial sandstones interbedded with siltstone, limestone, and shale units (Draut 2005). The Kayenta Formation interbeds with the overlying Navajo Sandstone (Draut 2005), and
in some areas, the transition between the Navajo Sandstone and the Kayenta Formation is highly visible along the Colorado River (Williams 2000).

In Kane Springs Canyon, Navajo Sandstone and Kayenta Formation are visible along with Wingate Sandstone and Chinle slopes. Wingate Sandstone is a dark red to dark orange geologic formation. Underlying the Wingate Sandstone are Chinle slopes composed of gray, red, pink, orange, and purple mudstone, sandstone, minor conglomerate, and some thin limestone (Anderson and Sprinkel 2000; Draut 2005; Hurlow and Bishop 2003).

In general, this area ranges from bare rocky outcrops to thin aeolian deposits on mesa tops, to alluvial terraces of Quaternary soils, and semiwet salt streambanks along the Colorado River and Kane Creek. The associated vegetation range from pinyon-juniper communities in the higher elevations, to mixed desert scrub and salt desert scrub communities along the slopes/terraces, with riparian zones along the edges of the Colorado River and Kane Creek.

In prehistoric times, this area supported a wide variety of floral and faunal resources that could have been utilized by past populations. Early settlers of the Moab area report using “old Indian trails” along Kane Springs to navigate and as winter range for their stock (Tanner 1976). Many of the sites in this area are short-term occupations and a majority of the rock art is in association with this type of site.
Early Explorations

The earliest published report on the Colorado River area is Hunt’s (1953) *Archaeological Survey of the La Sal Mountain Area*. During this survey, she found village sites containing Mesa Verde Pueblo II ceramic types in the adjacent Spanish Valley and Castle Valley. Along the Colorado River, she found sites with architecture, pottery, ground stone, lithics, granaries, and rock art. She characterized the granaries and rock art as Fremont and attests to the excellence of the petroglyphs found in the area (Hunt 1956).

Several years later, an archaeological survey was conducted along the north bank of the Colorado River in preparation for construction of the Texas Gulf Sulfur Potash Company access road and the associated Denver & Rio Grande Western railroad spur (Pierson 1981). Some archaeological sites and the talus slopes they were situated on were cleared away to make room for the road; hence, some of the rock art is situated on landscape far different from what we see today.

One of the most photographed and well-known rock art sites of southeastern Utah is the Potash Road Petroglyph Site. This site consisted of a pithouse, artifacts, and abundant rock art. As this site was directly in the right-of-way of the road, it was subject to excavation. The avocational Points and Pebbles Club conducted the excavation under the direction of BLM archaeologist Lloyd Pierson in the early 1960s. After the excavation, the road construction crew removed the pithouse and the talus slope leaving only the extensive panels of rock art (Pierson 1981).
Potash Road Petroglyph Site (42Gr316, 42Gr408, 42Gr449, Burden Basket, Claudia’s Site, Indian Writings, Pithouse Site, and Wall Street)

The Potash Road Petroglyph Site is well-known for its panels depicting numerous horned, shield-wielding anthropomorphs (Figure 9.2). There are at least eight petroglyph panels (100+ elements). In the early site records the cultural affiliation was identified as “Fremont+” (Pierson 1961), but in subsequently reports it as “certainly Anasazi in culture” (Pierson 1981). The archaeological materials from the Potash Road Petroglyph Site indicate ties with the Mesa Verde and Kayenta branches of the Anasazi and with the Fremont. The less-studied archaeological data provide context to interpret the rock art themes.

Rock art specialist Polly Schaafsma (1970) found numerous Southern San Rafael Style figures, distinguished by trapezoidal-bodied anthropomorphs with bucket-heads, horns, spears, and shields. She proposed that although the imagery is clearly of Fremont origin affiliated with the Southern San Rafael Style (A.D. 700 to 1250), it bears an aesthetic likeness to Anasazi imagery (Figure 3.11; Figure 9.2) (Schaafsma 1971, 1980). In particular, she identifies the handholding anthropomorphs to be reminiscent of Anasazi art (Schaafsma 1970).
The hallmark of the Abajo-La Sal Style is linked or grouped figures), a style articulated in the late 1980s (Cole 1987) and there are lesser-known panels that bear an affiliation to the Abajo-La Sal Style. There are also other stylistic attributes or motifs of the rock art at this site that are repetitively present at other sites in the area. These motifs include, round-hair bobbed anthropomorphs (Figure 9.2; Figure 9.4), “paper doll cutouts” (Figure 9.4), linked centipede/millipede figures (Figure 9.3), and intriguing blends of centipede/millipede anthropomorphic figures (Figure 9.4; Figure 9.6, b) among others.
An intriguing petroglyph at this site is an anthropomorph wearing a feathered headdress and holding a bow (post A.D. 500) and shield (Figure 9.4; Figure 9.5, left). Schaafsma (1970) commented on the striking similarity of a headdress on an anthropomorph (Figure 9.5, left) to the flicker feather headdress recovered from a Mantle’s Cave, a Fremont site located in northwestern Colorado (Figure 9.5, right). The flicker feather headdress from Mantle’s Cave is made of over three hundred flicker (Colaptes spp.) central tail feathers, ermine fur (Mustela frenata), buckskin, unidentified cordage, and leather thongs. A sample was taken from the ermine fur and from a leather
thong that held the headdress in place, the average for the two radiocarbon samples is cal A.D. 996 to cal A.D. 1190 (Truesdale 1993).

The spatial relationship between the rock art and the excavated portion of the site is illustrated in Figure 9.6. Along the bottom of one of the panels is a series of beam holes that may have supported a pithouse roof. Rock art images, on a surface with little patina/desert varnish development, surround these probable beam holes (Figure 9.6, e). There is extensive imagery in the area without patina/desert varnish development. For example, Figure 9.6 (a) depicts sheep, backpacker anthropomorphs, horned anthropomorphs, and a vertical grinding slick (outlined in black).
Figure 9.6. Site Relationships, Potash Road Petroglyph: (a) detail of rock art on surface without patina/desert varnish, and vertical grinding slick (illustration by author); (b) detail of panel A (illustration by author); (c) site overview (photograph by author); (d) Pierson indicating location of pithouse in relationship to beam holes (photograph courtesy of the Moab Field Office, BLM); (e) detail of beam holes and the surrounding rock art (photograph by author); (f) the excavated pithouse (Pierson 1981).
The pithouse was approximately five and one-half feet deep with an east entry that faced the river (Figure 9.6, f). The pithouse was circular with crude masonry walls. A circular adobe-lined fireplace was found in the center of the pithouse floor, and is approximately 0.63 m (25 in) in diameter. Pierson, who oversaw the excavation, is shown in Figure 9.6 (d) (photograph taken in the 1980s) indicating the relationship of the pithouse to the sandstone cliff. The pithouse was located a few meters below the beam holes, and a scar from the pithouse/talus slope removal is visible (Figure 9.6, c).

The excavation uncovered an assortment of artifacts. These artifacts include hammerstones, ground stone, scrapers, gravers, corncobs, numerous side-notched and square-based projectile points (post A.D. 500), black-on-white sherd spindle whorls (A.D. 500-1300), beads, bone dice (typically attributed to Fremont or Basketmaker groups), and ceramics. Approximately half of the ceramics are Mancos Black-on-White (a Mesa Verde type dating to A.D. 900 to 1150) and various Tusayan wares (Kayenta types dating to A.D. 950 to 1300). The ceramics have a targeted date range of A.D. 950 to 1150. In sum, the archaeological materials indicate a connection and ties to both Anasazi and Fremont groups, especially when considered alongside the rock art.

My discussion now turns to 11 selected rock art sites. Each site is discussed with consideration placed on the possible cultural affiliation(s) and date range(s) of the rock art, architecture, and artifact assemblages. The results are summarized in Table 9.1.
Table 9.1. Selected Rock Art Sites in the Portal Area.

<table>
<thead>
<tr>
<th>Site Name/Number</th>
<th>Architecture</th>
<th>Ceramics</th>
<th>Rock Art Style</th>
<th>Other Temporal Data</th>
<th>Depiction of Weaponry</th>
<th>Projectile Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potash Road Petroglyph</td>
<td>X X X</td>
<td>900-1150 500-1300</td>
<td>X</td>
<td>700-1250</td>
<td>post A.D. 500</td>
<td></td>
</tr>
<tr>
<td>Moab Mammoth</td>
<td>X X</td>
<td>500-1300</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td>post A.D. 500</td>
</tr>
<tr>
<td>Push Me, Pull Me</td>
<td>X</td>
<td>1000 B.C. to A.D. 500</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Night Dance</td>
<td>X</td>
<td>100 B.C. to A.D. 500</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Birthing Rock</td>
<td>X</td>
<td>1000 B.C. to A.D. 500</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Fringe-hogged Sheep</td>
<td>X</td>
<td>1000 B.C. to A.D. 500</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Moon Flower Canyon</td>
<td>X</td>
<td>1000 B.C. to A.D. 500</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Dinosaur Tracks</td>
<td>X X</td>
<td>100 B.C. to A.D. 500</td>
<td>700-1300</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Owl Panel</td>
<td>X X</td>
<td>450-1300</td>
<td>100 B.C. to A.D. 700</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>42Gr3235</td>
<td>X X</td>
<td>450-1300</td>
<td>100 B.C. to A.D. 700</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>Sally Basketmaker</td>
<td>X X X</td>
<td>900-1150 500-1300</td>
<td>100 B.C. to A.D. 500</td>
<td>X</td>
<td>700-1250</td>
<td></td>
</tr>
<tr>
<td>42Gr3661</td>
<td>X X X</td>
<td>900-1150 500-1300</td>
<td>100 B.C. to A.D. 500</td>
<td>X</td>
<td>700-1250</td>
<td>pre A.D. 500</td>
</tr>
</tbody>
</table>
Selected Rock Art Sites

Rock art styles present in the Portal Area range from those typical of the Late Archaic to ones from more recent times. These styles include Glen Canyon Style 5, Uncompahgre, Basketmaker, Pueblo, San Rafael, and Abajo-La Sal. There are several underlying connections in the imagery found in this area, and some of these are also found in the Mill Creek Area (Chapter 10).

Moab Mastodon Site (42Gr203, 42Gr332, and 42Gr603)

The Moab Mastodon Site has at least three petroglyph panels (100+ elements). Rock art styles present are probably Pueblo, (A.D. 700 and 1300), Uncompahgre, (1000 B.C. to A.D. 1000), and Abajo-La Sal. The most notorious figure at the site is the “mammoth” element, but as it has been altered, it is rather unlikely to be an actual depiction of an extinct proboscidean (Figure 9.7). This element has been used as evidence in support of Paleoindian occupation of the area (e.g., Averitt and Averitt 1947; Pierson 1981; Tanner 1976). Castleton (1978:191-194) also questions that this image represents a mammoth. There is a wide array of imagery present at this site, including a double-headed quadruped, conventionalized bear tracks (Figure 9.8), and a bear-like figure with an animal track (Figure 9.9). Strings of linked anthropomorphs are also present (not pictured).
Figure 9.7. Moab Mastodon (Castleton Collection, courtesy of Special Collections Department, J. Willard Marriott Library, University of Utah).

Figure 9.8. Moab Mastodon—Panel C (photograph by T. Scotter and illustration by author).
The associated archaeology of this site and nearby sites will be considered together in the following discussion. Based on the propinquity of the artifacts and features this was most likely a multicomponent site that has been artificially separated; hence, the separate accounts and reports are treated together here. One of the earliest accounts on this site is from Averitt and Averitt (1947), who were intrigued by the report of the mastodon element. Along with the rock art, they found numerous pieces ofdebitage and an untyped projectile point (post A.D. 500).

In a deposit of gravel overlying a sandstone cliff, immediately in front of the mastodon panel a small bell-shaped subterranean storage feature (Figure 9.10) was uncovered by bulldozer in 1957 (Pierson 1958). This feature was carved into a caliche layer and it measures approximately 0.6 m (22 inches) in diameter at its opening, 1.2 m (44 inches) in diameter at its widest girth, and was about 1 m (39 inches) deep. The bottom section appeared to have been plastered with caliche and was capped by a thin sandstone slab, and eventually covered by a layer of aeolian sands. The workmen that uncovered the pit reported that black-on-white (A.D. 500 to 1300) ceramic sherds were
present in the top fill of the pit, these sherds and any other probable contents disappeared before Pierson’s arrival (Pierson 1958). This loss is unfortunate, especially in consideration of the contents of another nearby storage feature.

Adjacent to the mastodon petroglyph and the bell-shaped pit there was also a slab-lined cist containing a burial, located in a slight overhang of the canyon wall. At the request of the local sheriff, the avocational Points and Pebbles Club conducted an excavation under the direction of Pierson. The cist measures approximately 0.9 m (35 inches) in length with a width of 0.77 m (30 inches) and the top of the cist and burial was flush with the modern ground surface. The burial within the cist was tightly flexed, in the fetal position, with the right side of the undeformed cranium to the east against the cliff face and measured 0.67 m (26 inches) in length with a width of 0.48 m (19 inches). The

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**Figure 9.10. Moab Mastodon, Bell-shaped Pit (Pierson 1958).**
body was wrapped in a rabbit fur blanket and accompanied by a finely, woven, patterned sandal. Based on the construction method of the sandal and the flexed inhumation in a slab-lined cist this site is considered to be Basketmaker III in affiliation (Coulam 2006; Pierson 1981).

**Push Me, Pull Me Site (42Gr315, 42Gr3651)**

The Push Me, Pull Me Site is a rock art site with four petroglyph panels (~71-80 elements) with a single combination element (Barney et al. 2004). Rock art styles are Glen Canyon Style 5, Pueblo, and San Rafael, which dates between 1000 B.C. to A.D. 1300. Panel 4 has several interesting features (Figure 9.11). There are two Glen Canyon Style 5 anthropomorphs with bows and arrows (post A.D. 500), several deer/elk, a small and a large bird, and an interesting bird or perhaps deer with scorpion-like claws at the ends of its legs. There are no known archaeological materials in association.

![Figure 9.11. Push Me, Pull Me—Panel 4 (photograph and illustration by author).](image-url)
**Night Dance Site (42Gr318, Site #1, and Wall Street)**

Night Dance Site is a habitation site with 12 petroglyph panels (~100+ elements) (Baker and Baker 2004; Pierson 1961, 1981; Pierson and Pendergast 1961). There are several styles and ages of rock art including Barrier Canyon, Glen Canyon Style 5, Uncompahgre, Abajo-La Sal, and San Rafael styles, which date between 1000 B.C. and A.D. 1250. Castleton (1978:188-190) classified the numerous anthropomorphs as Fremont in style.

Anthropomorphic forms clearly dominate Panel 9, many of which are represented as groups of linked figures (Figure 9.12). Other imagery present at Panel 9 includes zoomorphs, centipede/millipede figures, footprint/animal tracks, and abstract forms. Figure 9.13 illustrates Panel 4, which is composed of footprint/animal tracks, zoomorphs, abstract forms, and a Barrier Canyon Style petroglyph. Features and artifacts at this site include at least one cultural horizon and debitage (~1-9 pieces).

Currently the Night Dance site is adjacent to the road and Figure 9.14 illustrates the setting before road construction. In 1961, the area in front of the site had not been removed, but there is evidence of impacts to the site based on the number of vehicle tracks leading directly to Panel 9 (Figure 9.14, left). The unimproved two-track running adjacent to the site is visible, right center of frame (Figure 9.14, right).
Figure 9.12. Night Dance—Panel 9 (photograph and illustration by author).

Figure 9.13. Night Dance—Panel 4 (photograph and illustration by author).

**Birthing Rock Site (42Gr328, 42Gr481)**

The Birthing Rock Site is a rock art site with at least four petroglyph panels (100+ elements) (Bryant and Bryant 1992; Castleton 1978:297-209). Castleton (1978) considered this site possibly to be Fremont; however, Cole (1990:159) believed it to be Abajo-La Sal Style. As such, this is a “type-site” for the Abajo-La Sal Style, and was proposed to date between pre A.D. 1 to 1000 (Figure 9.15). There are no known archaeological materials in association. This site is well-known for the imagery commonly interpreted as depicting a birthing scene; however, there is lesser-studied imagery which deserves further consideration. Figure 9.16 is three trapezoidal anthropomorphs and a stylized banded paw print.

![Figure 9.15. Birthing Rock—Panel B (photograph and illustration by author).](image)

Cole (1990:159) also observed that there are some later contributions based on the more lightly patinated/desert varnished elements. Of these recent additions, the “sandal tracks” with textile designs are noteworthy. Figure 9.17 illustrates the similarities between some of the petroglyph sandal tracks (*left*) and a Basketmaker III sandal (*right*). Figure 9.17 (*left*) has three sandal tracks with a central banding, placed in a pattern of
right-left-right footsteps. This central banding is similar in nature to an archaeologically recovered sandal from southern, Utah. Figure 9.17 (right) shows the sandal; it has a raised geometric pattern on the sole and multicolored banding at the midsection, and dates to Basketmaker III times (Kankainen 1995:67). The raised geometric patterns on the soles of sandals would have left distinctive imprints of the wearer behind.

Figure 9.16. Birthing Rock—Panel C (photograph and illustration by author).

Figure 9.17. Similarities in Rock Art and Sandal Design (Birthing Rock): left, detail Panel B (illustration by author); and right, Basketmaker III sandals (from Kankainen 1995).
Fringe-legged Sheep (42Gr329, 42Gr607, Dumbell, Mamas and Pappas, and Hairy Sheep)

The Fringe-legged Sheep Site is a rock art site with ten petroglyph panels (~71-80 elements) (Shenton 2005). Rock art styles are Pueblo (A.D. 700 to 1300) or San Rafael (A.D. 700 to 1250). Panel A is composed of San Rafael style images (Figure 9.18), but there are anthropomorphs similar to the one found at the Sally Basketmaker Site (Figure 9.31). Panel B is composed of Pueblo style anthropomorphs, but could be also be classified as Abajo-La Sal Style (Figure 9.19) and is similar to the Moab Golf Course Site an Abajo-La Sal “type-site” (Figure 10.26). The “fringed” sheep in Figure 9.20 present interesting comparisons with linked centipede/millipede figures (Figure 9.3) and centipede/millipede anthropomorphic figures (Figure 9.4) depicted at the Potash Road Petroglyph Site. There are no known archaeological materials in association.

Figure 9.18. Fringe-legged Sheep—Panel A (photograph by L. Shenton, courtesy of the Moab Field Office, BLM, Site Stewardship Program and illustration by author).
Figure 9.19. Fringe-legged Sheep—Panel B (photograph by L. Shenton, courtesy of the Moab Field Office, BLM, Site Stewardship Program and illustration by author).

Figure 9.20. Fringe-legged Sheep—Panel C (photograph by Q. Baker and illustration by author).

_Moonflower Canyon Site (42Gr479)_

Moonflower Canyon Site is a rock art site with 12 petroglyph panels (100+ elements) (Shenton and Shenton 2005). Rock art styles present include Barrier Canyon, Pueblo, and San Rafael, which dates between 1000 B.C. to A.D. 1300. Castleton (1978:191-194) considers the imagery to probably be Fremont with some Anasazi. This is one of the most vandalized rock art sites in the Moab area (Figure 9.21, _right and left_). The defacement is so extensive that many of the prehistoric images are no longer visible.
One of the most distinctive images is the large Barrier Canyon Style petroglyph (Figure 9.22). There are no known archaeological materials in association.

Figure 9.21. Defacement at Moon Flower Canyon: (right) Panel 2; (left) Panel 6 (Castleton Collection, courtesy of Special Collections Department, J. Willard Marriott Library, University of Utah).

Figure 9.22. Moon Flower Canyon—Panel 2 (photograph and illustration by author).

_Dinosaur Tracks Site (42Gr601, Site #3)_

Dinosaur Tracks Site is a rock art site with eight petroglyph panels (100+ elements). Rock art styles are San Rafael (A.D. 700 to 1250), Abajo-La Sal, and other
unclassifiable imagery. Castleton (1978:188-190) considered the anthropomorphs in Figure 9.23 (*center of frame*) to be Fremont, but perhaps they fall under the later identified Abajo-La Sal Style due to the emphasis on the linked forms (a hallmark of the Abajo-La Sal Style). There are also other linked or grouped figures present at this site. For example, Figure 9.24 illustrates two different sets of grouped zoomorphs that are linked at their posteriors. There are no known archaeological materials in association.

![Figure 9.23. Dinosaur Tracks—Panel 6 (*upper section*) (photograph and illustration by author).](image)

![Figure 9.24. Dinosaur Tracks—Panel 6 (*lower section*) (photograph and illustration by author).](image)
Owl Panel Site (42Gr2608, 42Gr3238)

The Owl Panel Site is a complex habitation site with at least 21 rock art panels, primarily composed of petroglyphs (100+ elements) with some pictographs (~1-9 elements) (Conner 2002; Bryant and Bryant 1992). Rock art styles present include general Basketmaker, San Rafael, among other imagery. These styles date between 1000 B.C. to A.D. 1250. Artifacts include debitage (~1-9 pieces).

This site extends across a considerable distance, over 700 m (2,297 ft) long by 40 m (131 ft) wide. There are at least three low-walled disarticulated dwelling structures, made of local, tabular sandstone without mortar. Other living surfaces may also be present, two of these structures are illustrated in Figure 9.25.

Figure 9.25. Owl Panel, two Low-walled Structures (photographs by author).

Extensive imagery is present and only a small portion of is presented here. Figure 9.26 is a pictograph made with red pigment, it is a large circle with eleven vertical stripes. Rock art specialists usually identify this type of element as depictions of shields. There is also San Rafael Style imagery, for example the large-bodied anthropomorph in
Figure 9.27. This figure is stylistically similar to other sites discussed in this chapter including the Sally Basketmaker Site (Figure 9.31) and the Fringe-legged Sheep Site (Figure 9.20). Other imagery with connective threads are also present, another example is the fringed bird to the lower right of the large anthropomorph that is similar to the Push Me, Pull Me Site (Figure 9.11, right center of frame).

Figure 9.26. Owl Panel—Panel 6 (photograph and illustration by author).

Figure 9.27. Owl Panel—Panel 3 (Locus 3) (photograph and illustration by author).
**Site 42Gr3235**

Site 42Gr3235 is a complex habitation site with at least 26 rock art panels, primarily composed of petroglyphs (100+ elements) with some pictographs (~1-9 elements) (Conner 2002). Rock art styles present include general Basketmaker, Pueblo, San Rafael, among other imagery, which date between 1000 B.C. to A.D. 1250. Artifacts include unidentified ceramic sherds (A.D. 450 to 1300) and debitage (~1-9 pieces).

This site is long and extends over 185 m (607 ft) long by 20 m (66 ft) wide. There is at least one low-walled disarticulated dwelling structure (Structure 1), made of local, tabular sandstone without mortar (Figure 9.28); other living surfaces may also be present. Panel 6 is located on the sandstone face directly above Structure 1.

![Figure 9.28. Site 42Gr3235, Structure 1 (photograph by author).](image)
The Sally Basketmaker Site (42Gr3242)

The Sally Basketmaker is a complex habitation site—a village (Dohm 1995; Pierson 1981:59-60). There are pithouses, storage features, lithic procurement area, and a single petroglyph panel (~1-9 elements). The single petroglyph at this site is general Basketmaker in style, which dates between 100 B.C. and A.D. 700. Figure 9.31 illustrates the anthropomorph, which is approximately 1.5 m (5 ft) tall and may depict a female. The ceramics present indicate an occupation between A.D. 900 to 1300 (Pueblo
II/Pueblo III times) of occupation, although there may have been earlier occupational periods as well.

Figure 9.31. Sally Basketmaker (photograph by L. Grench and illustration by author).

Pierson (1981) first described this site as an unrecorded pithouse village with at least seven circular pithouses; each pithouse was approximately 3.7 m (12 ft) in diameter. There was also a doubled-walled circular structure, approximately 5.5 m (18 ft) in diameter. Surface artifacts included Mancos Black-on-White (a Mesa Verde ware dating from A.D. 900 to 1150) and an indented corrugated ware (dating from A.D. 900 to 1300). The targeted ceramic date range is from A.D. 900 to 1150.

A subsequent recording found additional features and artifacts (Dohm 1995). The features and artifacts present included nine possible pithouses, a large lithic procurement area, several storage features, a rock art panel, and additional ceramics (Figure 9.32). The structures are made of local, tabular sandstone, most without mortar. The lithic procurement area is characterized by a poor quality purple to brown chert with inclusions,
and there are numerous flakes (200+) intermixed with naturally occurring lithic debris. Additional ceramics found included corrugated (A.D. 900 to 1300), grayware (A.D. 450 to 1300), and redware (A.D. 650 to 1300) sherds; affiliation cannot be determined.

Figure 9.32. Planview of Sally Basketmaker (adapted from Dohm 1995).

**Site 42Gr3661**

Site 42Gr3661 is a rock art site with three petroglyph panels (~31-40) (Getts 2008). Rock art styles may be general Basketmaker (100 B.C. to A.D. 750) and perhaps San Rafael (A.D. 700 to 1250) (Figure 8.30). Panel A is featured in Castleton (1978:191-194), where he classified much of the rock art of the area as Fremont, but no site-specific information is given (Figure 9.33). Manning (1992:14-18) proposed that a panel dates to the Late Archaic-early Basketmaker period, but drew considerable comparisons to Fremont anthropomorphs with similar chest pendants. The proposed date for this panel is
based on the presence of an image of an atlatl (pre A.D. 500). Anthropomorphs with chest ornaments are found in Basketmaker and San Rafael rock art styles as well as in the Faces Motif. There are no known archaeological materials in association.

Figure 9.33. Site 42Gr3661—Panel A (photograph by T. Getts, courtesy of the Moab Field Office, BLM, Site Stewardship Program and illustration by author).

Summary of Selected Sites

These examples demonstrate some of the diversity and range of sites found in this area (Table 9.1). The highlighted sites illustrate some of the lesser-known imagery and its associated archaeology. Rock styles are the primary means of dating and determining cultural affiliation for this area. There are several themes and motifs from this area that are also present in the Mill Creek Area; however, in the Mill Creek Area there has been more intensive testing (i.e., excavation).
CHAPTER 10: MILL CREEK AREA

Mill Creek (Figure 1.1; 10.1) is a perennial stream that originates in the La Sal Mountains. Mill Creek includes the two main branches, North Fork Mill Creek and Mill Creek proper. The Mill Creek Area includes sites from adjacent localities. The non-rock art record indicates short-term occupations primarily affiliated with Mesa Verde Anasazi, with lighter signatures for Fremont, Kayenta Anasazi, and Basketmaker groups. There is also some evidence for Uncompaghre occupations as well. The rock art record indicates affiliations with Archaic, Basketmaker, Anasazi, Fremont, and Uncompaghre groups. Underlying thematic connections in the rock art imagery point to ties with the Colorado River Area.

Figure 10.1. Looking along North Fork Mill Creek (photograph by K. Clawson).
I begin this chapter with a summary of the geologic setting of Mill Creek and then turn to early archaeological explorations into this area and draw attention to some of the artifacts removed from it. I then highlight selected rock art sites and explore the cultural affiliation(s) and date range(s) for these sites based on the rock art styles, artifacts, and architecture present at each of them. Two sites from an adjacent mesa, Johnsons Up on Top and the Moab Golf Course Site, are discussed at the end of the selected rock art sites section for ease. I end this chapter with a summary of the selected sites.

**Environmental Setting**

Mill Creek lies in the Salt Anticline subdivision of the Colorado Plateau physiographic province (Stokes 1987). Elevations range from less than 130 m (400 ft) to over 1600 m (5000 ft). Mill Creek originates in the La Sal Mountains; at the lower end of the canyon sequence North Fork flows into Mill Creek. Mill Creek then flows across Spanish Valley to the confluence with Pack Creek and the Colorado River. Johnsons Up on Top, a narrow mesa, lies between Mill Creek Canyon and the northern escarpment of Spanish Valley. Mill Creek is a perennial stream (Hovezak and Sesler 1999).

The escarpments along Mill Creek are of Navajo Sandstone, a lightly hued, white to pale orange geologic formation, that is now cliff forming and commonly stained with desert varnish (Draut 2005; Hurlow and Bishop 2003; Lamm 1999). The North Fork of Mill Creek is also of Navajo Sandstone with underlying Kayenta and Wingate formations. The Kayenta Formation is thinly laminated thickly bedded red-brown to lavender-gray fluvial sandstones interbedded with siltstone, limestone, and shale units, which interbeds with overlying Navajo Sandstone (Draut 2005). Underlying the Kayenta
Formation is Wingate Sandstone, a dark red to orange geologic formation (Anderson and Sprinkel 2000; Draut 2005; Hurlow and Bishop 2003).

In general, this area ranges from bare rocky outcrops and slick rock without sediments, to thin to upland sandy loams on the surrounding mesa tops, to Holocene age alluvium terraces, which range from well-developed flat terraces to narrow and discontinuous (Lamm 1999). The associated vegetation ranges from pinyon-juniper communities in higher elevations, to mixed desert and scrub communities, to riparian zones along the streams.

In prehistoric times, there was a wide variety of wild and domesticated plants that were exploited by the prehistoric inhabitants of Mill Creek (Hovezak and Sesler 1999; Matthews 1999). Most of the short-term occupations have associated rock art. The presence of perennial water and the highly diverse and concentrated floral and faunal resources would have made Mill Creek an attractive place in prehistoric times for both hunter-gatherer populations and for the Ancestral Puebloan farmers who occupied sizable villages in the adjacent Spanish Valley and Castle Valley.

**Early Explorations**

Accounts from early European-American colonists of a short-lived Elk Mountain Mission (from June to September 1885) mention Mill Creek; however, Mill Creek was called Elk Mountain Creek and the La Sal Mountains are referred to as Elk Mountain. The colonists found Mill Creek to be flourishing with the largest sagebrush they had ever seen and reported encountering cultivated lands. Approximately 10 acres of land was sown with corn, melons, squashes, and pumpkins. The narrative indicates that the land
was first cleared of grasses and brush then small holes were dug and the grain placed inside the holes. Loose soil was then piled in ridges forming dams that allowed the land to be flooded in small quantities (Tanner 1976:54).

Mill Creek is known for its concentration of human scalps (partial or complete skin and hair removed from a cranium) stretched over basketry disks (Howard and Janetski 1992). All of the scalps were removed from their archaeological context by non-archaeologists, hence vital information regarding context has been lost. Depictions of heads/scalps are also present in the rock art record for the Mill Creek Area (e.g., Figure 10.15). Representations of large-bodied anthropomorphs holding disembodied human heads or scalps are found in Basketmaker (100 B.C. to A.D. 750) and Fremont rock art (Classic Vernal Style, A.D. 500 to 1000) (Cole 1990; Schaafsma 2007). Figure 10.2 (left) illustrates petroglyphs of the Classic Vernal Style and two anthropomorphs are holding head trophies. The Green Mask pictograph (Figure 10.2, center) is from the Green Mask Site, it is green, yellow, and red, with a loop at the top of the head, it is strikingly similar to a head and scalp (Figure 10.2, right) that was part of Basketmaker II burial goods associated with young female and infant. The head and scalp are decorated with bands of red, white, yellow, and green and has a thong attached at the top (Cole 1993; Kidder and Guernsey 1919).
Five recovered scalps from the Mill Creek Area are discussed here (Howard and Janetski 1992). The Green scalp was found wrapped in woven cedar bark. The scalp was turned inside out with the hair on the inside, and it held a squash rind fragment, cordage, and plaited juniper bark. The Williams scalp was buried with two baskets and two basketry disks, which subsequently have been lost. The scalp is bare of hair and the ears are still visible. The next scalps were recovered together wrapped in a woven mat and are of an adult female and child. Both scalps have basketry disks; the basketry disk associated with the adult female is decorated with a red painted cross-like design. The basketry disk associated with the child’s scalp is undecorated. The Lema scalp (site 42Gr902) is from an adult male, approximately 28 to 35 years old, with an associated basketry disk. It was found wrapped in juniper bark in a sealed cist. An AMS sample yielded a date range from cal A.D. 1 to cal A.D. 359; however, this date should not be extended to other scalps.

The basketry disks are interpreted as a means to hold the scalp in place for purposes of carrying or display. The method of manufacture of the extant basketry disks provides some clues as to their cultural affiliation. The space-coiled, intricate-stitch
found on four of the five scalps is not considered to be Archaic or Fremont in style. Rather, this technique is thought to be characteristic of Basketmaker II and III periods and is most commonly found in Anasazi areas to the south; however, scalps with basketry disks have also been recovered from more northern locations such as Nine Mile Canyon (Howard and Janetski 1992). Additionally, depictions of large-bodied anthropomorphs wielding head trophies and shield figures, and variations of head trophy themes, are present in Basketmaker, Fremont, and Anasazi imagery (e.g., Cole 1990; Schaafsma 1971, 2000).

The earliest published report on Mill Creek is Hunt’s (1953) *Survey of the La Sal Mountains*. She reports numerous village sites containing Mesa Verde Pueblo II ceramic types in the adjacent Castle and Spanish Valleys. In the La Sal Mountains, she found evidence for Anasazi, Fremont, and Uncompahgre occupations. She found Fremont sites to be the most numerous, but that these sites “show close ties to their Anasazi neighbors” that is, Fremont sites with Anasazi ceramics (Hunt 1953). Along Mill Creek, she found sites with architecture, granaries, pottery, ground stone, and lithics. Hunt’s primary focus was on creating typologies. Unfortunately, site-specific details were often divorced from context making associations difficult to determine. There are instances, however, where the distinctiveness of the rock art imagery allows site information from Hunt’s survey to be reconnected with subsequent recordings. One such example is the North Fork Rockshelter, a village with copious rock art.
North Fork Rockshelter Site (42Gr174-176, 42Gr2946, NF-1, and 103-50)

The North Fork Rockshelter Site is a complex habitation site—a village. There are dwellings, storage features, ceramics, flaked stone tools, ground stone and bedrock mortars, corncobs and husks, cordage, juniper bark, reeds, faunal materials, hand/foot holds, and midden areas. The site measures approximately 675 m (2,215 ft) by 40 m (131 ft) and only a small portion of the edge and the outer rim of a large alcove is captured in Figure 10.3.

Hunt (1953) reported six subterranean circular, dry-laid rock dwellings approximately ten feet in diameter. Typically, the back of the alcove formed one wall of the structures, some of the larger boulders formed another wall, and unshaped boulders formed the remaining walls (Figure 10.4, right). Inside the dwellings were hearths and pottery. Although no roofs were preserved, there were numerous poles scattered about the shelter, which suggested some type of pole roof.

Hunt (1953) also reported a well constructed granary consisting of very thin, long, narrow sandstone slabs, set in thick pads of turtleback-adobe (typically attributed to Basketmaker or Fremont groups). Ceramics noted at the site include Mancos Black-on-White (a Mesa Verde type dating from A.D. 980 to 1150), a polished Fremont grayware (A.D. 650 to 1350), grayware (A.D. 450 to 1300) and possible Tusayan corrugated (a Kayenta type dating from A.D. 950 to 1300) sherds. A targeted date range for the ceramic assemblage is from A.D. 980 to A.D. 1150. Other associated artifacts include small projectile points (post A.D. 500), scrapers, choppers, and metates. She found that the projectile point types and the abundant rock art indicated a long occupational span that extended from pre-pottery (pre A.D. 450) times through late Fremont period.
A subsequent recording documented additional features and artifacts (Cole and Moe 1998). Lithics included debitage (~25-100 pieces), utilized flakes, and a corner-notched projectile point (post A.D. 500). Ground stone included bedrock mortars and numerous grinding slicks or cupules (Figure 10.4, left; Figure 10.7). Corncobs, cornhusks, reeds, and cordage were also noted. Two cordage samples were collected for dating: a knotted white cordage and a s-twist brown cordage of knotted juniper bark. Dates obtained on the fiber cordage are from cal A.D. 665 to cal A.D. 885 and cal A.D. 855 to cal A.D. 1020 (Hovezak and Sesler 1999; Kinnear-Ferris 1999). Additional grayware (A.D. 450 to 1300) sherds were noted.
Other artifacts and features present included fourteen depressions that may have been storage cists, two midden areas, three rock rubble walls, one mud structure foundation, faunal material, smoke stains, burned adobe, and several foot/hand holds (Cole and Moe 1998). Scattered throughout the site are local tabular sandstone blocks that once formed the walls of the six subterranean circular, dry-laid rock dwellings reported by Hunt. These sandstone blocks are visible in the background of Figure 10.4 (right) and Figure 10.7.

![Figure 10.4. North Fork Rockshelter: right, bedrock metate and grinding slick; left, remnants of a structure (photographs by author).](image)

Cole and Moe (1998) also documented 78 rock art panels. These panels are composed of petroglyphs, pictographs, and combinations, with over 1,000 elements. Cole and Moe proposed that the rock art styles present include Basketmaker and San Juan Basketmaker figures, and San Rafael petroglyphs, which date from 100 B.C. to A.D. 1300.

Only a small portion of the rock art is illustrated in the following discussion. Throughout the site, there are elements consistent with the canons of the San Rafael
Style. For example, Figure 10.5 illustrates an upside down “fringed” petroglyph anthropomorph. These fringed figures are common along the Mill Creek Area and are considered to be San Rafael in style. The petroglyphs in Figure 10.5 are indicated by the interior stippling pattern; the pictographs are solidly colored in shades of red and gray.

Pictographs are the most common, but there are high levels of combination figures as well. For example, the anthropomorph illustrated in Figure 10.6 is a combination element, where pictograph and petroglyph construction methods are fused to make the distinctive figure. The body and inner portions of the head are pecked with a white/grayish pigment overlaid. The chest bands, neck, and outer portions of the head and the head ornamentation are painted a dark grayish black. The other elements consisting of anthropomorphs and abstract forms are painted in shades of a grayish-white, gray, and red (natural contours/joints are depicted in black).

Figure 10.5. North Fork Rockshelter—Panel 6 (photograph and illustration by author).
Figure 10.7 is one of the several large boulders covered with petroglyphs and grinding slicks and cupules. The most common motif on the boulder is commonly referred to as sandal tracks. The sandal tracks range from simple outlines, outlined banded, and solidly filled-in forms. Varying combination of these forms also have delineated toes, reminiscent of the conventionalization found in Uncompahgre Style bear tracks (Figure 3.6). Numerous grinding slicks are also intermingled and in some instances form part of the sandal tracks. The distinctiveness of these sandal tracks, along with other imagery, permitted the establishing of linkages between Hunt’s (1953) and Cole and Moe’s (1998) recording.
The sheer variety of element types, methods of execution, and multiple layers indicate that the rock art was made over a considerable period of time with contributions by many different artists. The identified rock art styles present are associated with Basketmaker and Fremont groups. The ceramic assemblage indicates affiliation with Mesa Verde and Fremont groups, while the turtle-backed adobe storage feature hints to ties with Fremont or Basketmaker groups. In sum, this is a multicomponent site—a village—where an intermingling is evident of multiple groups over an extended period is evident.

My discussion now turns to 14 selected rock art sites. Each site is discussed with consideration placed on the possible cultural affiliation(s) and date range(s) of the rock art, architecture, and artifact assemblages. These findings are summarized in Table 10.1.
Table 10.1. Selected Sites in the Mill Creek Area.

<table>
<thead>
<tr>
<th>Site Name/Number</th>
<th>Archaeology</th>
<th>Ceramics (A.D.)</th>
<th>Rock Art Style</th>
<th>Other Temporal Data</th>
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<td>Basketmaker</td>
<td>Depiction of Weaponry</td>
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<td></td>
<td>Lithics</td>
<td>Ceramics</td>
<td>Mesa Verde</td>
<td>Kayenta</td>
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<tr>
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<tr>
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<td>X</td>
<td>X</td>
<td>980-1150</td>
</tr>
<tr>
<td>Dancing on a Bear</td>
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<td>X</td>
<td>X</td>
<td>980-1150</td>
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<tr>
<td>White Basketmaker</td>
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<td>X</td>
<td>X</td>
<td>1075-1275</td>
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<tr>
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<td>X</td>
<td>X</td>
<td>770-930</td>
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<tr>
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<tr>
<td>Moab Golf Course</td>
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</table>
Selected Rock Art Sites

The Mill Creek Area is considerably diverse in the rock art styles present, which range from Archaic to more recent times. There are several underlying connections in the imagery found in this area. The most frequent imagery is of linked or grouped figures. Fringed anthropomorphs are also common and this stylized anthropomorphic form occurs along Ferron Creek in the mountains west of Castle Valley, in Nine Mile Canyon, and in the Ashley-Dry Fork Valleys (Figure 3.10), all of which are Fremont areas. Conventionalized sandal and bear tracks are also widespread, and the bear tracks hint of ties to the Uncompahgre Complex. There are considerable linkages with the imagery present in the Colorado River Area.

Sheep on Parade Site (NF-8, 42Gr199, 42Gr2904, Lower Pool Rockshelter, and Vandalized)

The Sheep on Parade Site is a rock art site with four petroglyph panels (50+ elements) (Cole and Moe 1998; Louthan 1996). Rock art styles are Basketmaker II-III, Pueblo II-III, and San Rafael, which dates from 100 B.C. to 1300. Figure 9.8 is of two anthropomorphs, each holding a bow (post A.D. 500). The anthropomorph on the right holds a shield as well. There are no known archaeological materials in association.
Site 42Gr2625 (93.14)

Site 42Gr2625 has seven petroglyph panels (80+ elements), and an unquantified sparse lithic scatter (Cole and Moe 1998). Cole and Moe (1998) proposed that Formative rock art styles date this site to 1000 B.C. to A.D. 1300 and place affiliation with Archaic (abstract tradition), Pueblo, and Fremont groups. Figure 10.9 is a portion of Panel 1, depicting eight anthropomorphs holding hands. These linked anthropomorphs are also pictured in Hunt (1953:189). Also present are several conventionalized tracks—banded stylized forms. The rock art styles present possibly includes general Basketmaker (A.D. 100 B.C. to A.D. 750), Uncompahgre (1000 B.C. to A.D. 1000), and Abajo-La Sal.
Site 42Gr2626 (93.15)

Site 42Gr2626 has seven petroglyph panels (100+ elements), and a unquantified sparse lithic scatter. According to Cole and Moe (1993), the rock art style present at this site is Basketmaker, and specifically assigned it a date range from A.D. 1 to 300. However, Cole and Moe also identify it as Formative period style rock art. Cole (1990:10) defines the Formative period as beginning A.D. 1 and extending through Fremont and Anasazi times (~A.D. 1300). To add to the confusion, in previous accounts Cole (1990:161), identified this site as an Abajo-La Sal style “type-site” and assigns an age from pre A.D. 1 to 900, and places affiliation to Fremont and Anasazi groups. Figure 10.10 illustrates a portion of Panel 6, showing the string of linked anthropomorphs and larger-bodied anthropomorphs, this imagery is similar to other rock art panels found along the Mill Creek Area and in other locals around Moab. The rock art styles present
possibly include general Basketmaker (A.D. 100 B.C. to A.D. 750), Uncompahgre (1000 B.C. to A.D. 1000), and Abajo-La Sal.

Figure 10.10. Site 42Gr2626—Panel 6 (photograph and illustration by author).

Sipapu Site (97-10, 42Gr2889)

The Sipapu Site is a habitation site with 10 petroglyph panels (200+ elements) (Cole and Moe 1997). Rock art styles present include Basketmaker II-III and San Rafael (Cole and Moe 1997; Hovezak and Sesler 1999), which date from 100 B.C. to A.D. 1250. Other artifacts and features present include an unquantified lithic scatter, a core, ground stone, and a hearth; a radiocarbon sample taken from the hearth dates from cal A.D. 545 to cal A.D. 675 (Lamm 1999).
Figure 10.11 illustrates several strings of linked anthropomorphs and several anthropomorphs with internal body designs directly above a fringed anthropomorph (consistent with the San Rafael Style). Figure 10.12 shows numerous conventionalized banded tracks (possible Uncompahgre Style) as well as a zoomorph with conventionalized banded tracks for feet. This type of depiction of zoomorphs are present along both the Mill Creek and Colorado River Areas. There is also an anthropomorph holding a bow and arrow (post A.D. 500).

Figure 10.11. Sipapu—Panel 7: left, (photo courtesy of the Edge of the Cedars Museum); right, (Cole and Moe 1997; illustration by K. Borger).

Figure 10.12. Sipapu—Panel 9: left, (photo courtesy of the Edge of the Cedars Museum); right, (Cole and Moe 1997; illustration by K. Borger).
Grant’s Thesis Site (97-14, 97-14C, 42Gr2897, and Eagle Dancer Site)

Grant’s Thesis Site is a complex habitation site with at least 15 petroglyph and one pictograph panels (100+ elements). Rock art styles are Basketmaker II-III and Pueblo II, which dates from 100 B.C. to A.D. 1300 (Cole and Moe 1998). Most of the anthropomorphs in Figure 10.13 are long in the torso, stick-like figures. The other anthropomorphs have shorter torsos, and almost all have hands and feet that are emphasized, which also may be Uncompahgre. Figure 10.14 illustrates conventionalized banded tracks and there is an anthropomorph with a short body and emphasized hands and feet.

There are over 20 cultural features, hearths and middens, and multiple artifact scatters. Artifacts included debitage (100+ pieces), bifaces, cores, ground stone, faunal materials, and ceramics. Ceramics present include Mancos Black-on-White (a Mesa Verde type dating from A.D. 980 to 1150), corrugated (A.D. 900 to 1300), grayware
(A.D. 450 to 1300) sherds (Blinman 2001). The targeted ceramic date range for this site extends from A.D. 980 to 1150.

Radiocarbon and macrobotanical samples reveal additional chronological data and subsistence information for this site. Samples taken from Zea mays kernels from fill in Feature 21 (a hearth) were submitted for AMS assay. The dates obtained are cal A.D. 890 to cal A.D. 1040, cal A.D. 960 to cal A.D. 1155 (Fahrni 2004; Hovezak and Sesler 1999), and cal A.D. 1075 to 1155 (Lamm 1999). Analysis of the macrobotanical samples identified multiple taxa: goosefoot, composite, dicot, hedgehog cactus, loco weed, pinyon, globe mallow, and corn (Matthews 1999), indicating a reliance on domesticated and wild plant resources. Taken in conjunction the targeted ceramic date, A.D. 980 to 1150, and the radiocarbon dates, which overlap cal A.D. 890 to cal A.D. 1155, indicate that the occupation of this site most likely occurred during the 10th and 11th centuries A.D.

Figure 10.14. Grant’s Thesis—Panel 5: left, (photograph courtesy of the Edge of the Cedars Museum); right, (Cole and Moe 1998; illustration by A. Fahrni).
**Dancing on a Bear Site (97-13, 97-13C, and 42Gr2898)**

Dancing on a Bear Site is a habitation site with 10 petroglyph panels (140+ elements). Rock art styles are Basketmaker II-III, which dates to 100 B.C. to A.D. 750 (Cole and Moe 1998; Hovezak and Sesler 1999). Artifacts and features present include ground stone, debitage (~10-25 pieces), fire-cracked rock, biface fragments, utilized flakes, hammerstone, core, hearth, midden, and ceramics (Cole and Moe 1998). Ceramic types include Mancos Black-on-White (a Mesa Verde type dating from A.D. 980 to 1150), Mancos Corrugated (a Mesa Verde type dating from A.D. 900 to 1200), and Mesa Verde Gray (A.D. 450 to 1300) (Blinman 2001). The target ceramic date range for this site is A.D. 980 to 1150.

Panel 2 is complex panel with over 40 elements. Figure 10.15 shows only a portion of this panel. There are approximately 20 anthropomorphs, including six linked anthropomorphs, most of which are depicted standing on top of a large quadruped, perhaps of the Abajo-La Sal Style. There is an anthropomorphic figure with long rake-like arms with fringes extending downwards; although more elaborate here, it is similar to those at North Fork Rockshelter Site (Figure 10.5), and the Boulder Site (Figure 10.22), among other sites generally considered to be San Rafael Style (A.D. 700-1250). In the lower left of frame of Figure 10.16, there is also a large anthropomorph holding a trophy head.
White Basketmaker Site (98.5; 98-C, 42Gr2929, and White Guy Site)

The White Basketmaker Site is a multicomponent habitation site with four petroglyph panels (25+ elements) and one combination panel (one element). Rock art styles are Archaic (abstract tradition) and Basketmaker, which date from 1000 B.C. to A.D. 750 (Cole and Moe 1998). The most striking figure is a combination anthropomorphic element that was created with colored pigment, abrading, and pecking (Figure 10.16). The anthropomorph was placed on a surface that was abraded to create a smooth surface; the figure was then applied as a single color (pinkish-white) and brush strokes are not evident. It was then textured with vertical, short marks that are concentrated in the chest (Cole and Moe 1998).
This site was subjected to further investigation, with particular attention placed on an area with lateral erosion that had revealed a nearly vertical, 4 m (13 ft) high profile face in the cut bank of the creek (Figure 10.18). This gave a vertical view of a stratified site with multiple cultural horizons separated by episodes of natural deposition. In 1998, when the site was first recorded, a radiocarbon sample was taken from a stratigraphic unit (later defined as Stratum 9); the sample dated 820 cal B.C. to 540 cal B.C. Other samples were also taken and submitted for testing. The location and date range for these samples are presented in Figure 10.17. The samples indicate multiple occupational periods over an extended period, which date from cal A.D. 790 to cal A.D. 900, cal A.D. 620 to cal A.D. 980, cal A.D. 130 to cal A.D. 350, and 800 cal B.C. to 520 cal B.C. (Hovezak 2003).
Figure 10.17. Cutbank profile at White Basketmaker (adapted from Hovezak 2003).

Other artifacts and features were also present including debitage (~500 pieces), ground stone, and ceramics. Ceramics recovered from the upper strata are a possible Uncompaghre Brown (A.D. 600 to 1300) and a possible McElmo Black-on-White (a Mesa Verde affiliated type dating from A.D. 1075 to 1275). The targeted ceramic date is from A.D. 1075 to 1275. Macrobotanical samples were also taken. The analysis of these samples identified multiple taxa that included corn, cottonwood, pinyon, juniper, oak, ash, sage, mountain mahogany, serviceberry, chenopodium, and Indian ricegrass, which indicating a reliance on domesticated and wild plant resources. Most of the bone fragments were not taxonomically identifiable but the assemblage contains at least four different animals including an indeterminate small bird, an indeterminate small mammal, an indeterminate medium/large mammal, and a lagomorph. In sum, this is a multicomponent site with a series of occupations and periodic abandonments.
Dry Falls Site (98-A, 42Gr2944)

The Dry Falls Site is a habitation site with four petroglyph panels (~10-25 elements) (Cole and Moe 1998). Most of the imagery at this site does not meet the stylistic canons of a particular style. Panel 2 (Figure 10.18) hints at ties to Uncompaghre or Abajo-La Sal styles but cannot be classified with confidence. In addition to the rock art, there are also a small masonry structure, storage features, a midden, and a possible hearth (Hovezak and Sesler 1999). Artifacts present include debitage (350+ pieces), ground stone, a side-notched projectile point (post A.D. 500), and ceramics. All of the ceramic sherds are Mesa Verde types and include Moccasin Gray (A.D. 755 to 980), Mancos Gray (A.D. 875 to 980), and Bluff Black-on-Red (A.D. 750 to 930), and Mesa Verde grayware (A.D. 450 to 1300) (Blinman 2001). The targeted date range is A.D. 875 to 930. A macrobotanical sample contained multiple taxa present including serviceberry, big sagebrush, saltbrush, mountain mahogany, goosefoot, composite, bugseed, dicotash, grass, juniper, legume, mallow, wild tobacco, Indian ricegrass, and pinyon (Matthews 1999).

Figure 10.18. Dry Falls Site—Panel 2: left, (photograph courtesy of the Edge of the Cedars Museum); right, (Cole et al. 1998, illustration by J. Moe).
Mountain Boomer Site (98-B, 42Gr2945)

The Mountain Boomer Site is a habitation site with three petroglyph panels (~21-30 elements) (Cole and Moe 1998). The imagery does not conform to a particular style and the most distinctive figure is the snake element in Panel 2 (Figure 10.19). Artifacts include debitage (150+ pieces), ground stone, cores, hammerstone, faunal fragments, and a jet pendant (Hovezak and Sesler 1999).

Figure 10.19. Mountain Boomer—Panel 2 (Hovezak and Sesler 1999; illustration by J. Moe).
Boulder Site (NF-4, 42Gr2949)

The Boulder Site is a rock art site with at least three petroglyph panels (~71-80 elements). A fringed or rake-like anthropomorph is the most frequent type of element at this site (Figure 10.21), and is also common at other sites in the area (e.g., North Fork Rockshelter, and Dancing on a Bear). Castleton (1973, 1978:199-200) reported numerous anthropomorphs of the Fremont type, with rake-like headdresses, some having rake-like structures coming off the shoulders. He also noted ruins, and a depressed area
that most likely was a cist, and smoke stains on the back wall of the overhang. Castleton thought that this was probably a habitation site. Since Castleton’s recording (Figure 10.22, right) one of the boulders is no longer upright (Figure 10.22, left). Rock art styles are San Rafael, which dates from A.D. 700 to 1250.

Figure 10.21. Boulder (photograph and illustration by author).
Site 42Gr3175

Site 42Gr3175 is a single petroglyph panel (~41-50 elements) and is strikingly diverse in its composition (Figure 10.23). There are multiple layers and considerable differences in the subject matter, composition, and the levels of patina for individual elements. This indicates the panel is a composite of several different periods of manufacture and perhaps contributions by people of different heritage. The distinguishing characteristic of this panel is the marked diversity in composition. The stylistic attributes of several of the anthropomorphs stand out from other rock art sites on Johnsons Up on Top and the nearby Mill Creek (Neal and Simms 2008). The anthropomorphs show similarities to elements found in Fremont areas—in particular, the large-bodied anthropomorphs with internal body designs, that are stylistically consistent with the San Rafael Style (A.D. 700 to 1250). There are no known archaeological materials in association (Neal and Simms 2008).
Site 42Gr3176

Site 42Gr3176 is rock art sites with four petroglyph panels (~31-40 elements) and a sparse lithic scatter. Most of the elements are on Panel 1 and Figure 10.24 is only a portion of that panel. This panel is distinctive for several reasons. First, it seems to have been created in a single event or several tightly clustered events. This is evident in the patina levels, the consistency in subject matter, and method of execution. Anthropomorphs dominate this panel and most of the 19 anthropomorphs are solidly pecked, with trapezoidal bodies, downward-curved arms and hands, short legs, and short, downward feet. There are four bear claws, or feet/footprints, and all are solidly pecked. One has five toes, while the other has six. The other two are banded stylized forms (Neal and Simms 2008). This panel has stylistic similarities to the Abajo-La Sal Style as well as the Basketmaker Style (100 B.C. to A.D. 750).
Figure 10.24. Site 42Gr3176—Panel 1 (photograph by S. Simms and illustration by author).

Moab Golf Course Site (42Gr890)

This is one of the best known rock art sites in Moab. The locals affectionately refer to the large-bodied anthropomorph with the extended hand as the Moab Man (Figure 10.25, left of center of frame). The Moab Man has graced the cover of the book *The Rock Art of Utah* (Schaafsma 1971). The petroglyph images (100+ elements) are situated on a large red sandstone outcrop, which is visible from a considerable distance effectively serving as an orientation point on the landscape. Castleton (1970; 1978:194-197) found that the tapered bodies, earbobs, and headdress are more similar to Fremont than Anasazi, hence placing affiliation with the Fremont (San Rafael Style A.D. 700 to 1250). Cole (1990:162-163) proposed that the images are Abajo-La Sal Style, solid and stippled pecked petroglyphs, dating from pre A.D. 1 to A.D. 900 (Figure 10.25; Figure 10.26; and Figure 10.27). This is one of the “type-sites” for the Abajo-La Sal Style and is further considered in Chapter 11 (Integration and Conclusion). There are no known archaeological materials in association.
Figure 10.25. Moab Golf Course (photograph and illustration by author).

Figure 10.26. Moab Golf Course (photograph and illustration by author).
Summary of Selected Sites

The highlighted examples illustrate some of the diversity and range of sites found in the Mill Creek Area. There are several common trends illustrated in Table 10.1. For example, many of these sites have copious imagery representing several rock art styles. A majority of these sites are habitation sites with ceramics, lithics, and ground stone. Many are short-term occupations, with subsequent, also short-term, reoccupations. A good number of sites have chronological data, in addition to rock art style, derived from ceramics, radiometric data, and depictions of horizon markers. As Hovezak and Sesler (1999:59) pointed out that many of the sites in this area that were assumed to derive from Basketmaker contexts actually have indicators that suggest occupation during 10th and 11th centuries (Pueblo II times). The ceramic data indicates ties to Mesa Verde, Kayenta, and Fremont groups with the strongest signature from Mesa Verde groups during the 10th through 12th centuries (early Pueblo II to early Pueblo III times). There are also some early Mesa Verde ceramics during the 8th and 9th centuries (Pueblo I times) that suggest
an early low-level wave of Mesa Verde groups into the area followed by a greater immigration.
CHAPTER 11: INTEGRATION AND DISCUSSION

In this chapter, I integrate the dataset from Indian Creek, Sevenmile Canyon, the Portal Area, and Mill Creek Area through a series of nested research goals. First, I assess the temporal placement of the Abajo-La Sal Style. Second, I evaluate the relationships among representational rock art styles in southeastern Utah and how they relate to archaeological site attributes. Lastly, I consider the relationship among rock art styles and archaeological affiliation and chronologies. I use these data to examine the situational nature of ethnic boundaries among these cultural traditions. I propose that the stylistic expressions found in rock art are a result of cultural transmission where some cultural variants were preferentially adopted over others and in turn symbolically displayed in rock art. I end this thesis with a discussion of future research directions.

The Abajo-La Sal Style

The Abajo-La Sal Style is most commonly found in the LaSal and Abajo Mountains (Figure 3.1) and is thought to be a local development that arose out of Fremont and Anasazi interaction. Cole (1990:151-2, 157) proposes that it shares characteristics with Basketmaker, Barrier Canyon, and San Rafael as well as Uncompahgre styles (2006:194). Various date ranges have been suggested: A.D. 600 to 1200 (Cole 1987:132), pre-A.D. 1 to 900 (Cole 1990:151-152), pre-A.D. 1 to 1000 (Cole 1992b:50). It is most recently considered to be part of a complex of Archaic-based styles (Cole 2006:194, 2009:150). Clearly, there is a need to refine the temporal placement and
cultural affiliation for the Abajo-La Sal Style. The first research question posed in this thesis pursues this issue:

**Question 1:** Is the Abajo-La Sal Style associated with dated archaeological assemblages that indicate a possible temporal placement?

The total number of sites designated as having Abajo-La Sal Style imagery in the published literature is slim relative to other styles. Cole (1987, 1990) has identified approximately five sites in southeastern Utah and approximately eight sites in Colorado. I have proposed an additional seven sites in southeastern Utah, bringing the total to about 20 sites.

For the sites in southeastern Utah, I was able to link Cole’s (1987:132-146, 173-182, 1990:157-164) descriptive descriptions with the archaeological site reports for all but one site, based on the distinctive rock art imagery. Figure 11.1 illustrates the imagery at four of the sites identified by Cole (*left column*) and five of the sites I classified as having Abajo-La Sal imagery (*right column*). The anthropomorphs on the left exhibit a wide ranges of body forms, from rectangular shaped bodies with wing-like arms to triangular, stick, and naturalistic shaped bodies. The anthropomorphs on the right also vary in body shape, although not to the same degree as the anthropomorphs on the left. The hallmark of the Abajo-La Sal Style is rows of linked figures (Cole 1990:164), this theme figures largely in my site classification.
Table 11.1 illustrates indicates the characteristics for the Abajo-La Sal Style sites in southeastern Utah. The majority of the sites are dated and cultural affiliation determined by rock art styles, as temporally and/or culturally diagnostic artifacts are not generally present. Table 11.2 details the sites in southeastern Utah that have temporally diagnostic information—42Sa13804, Potash Road Petroglyph, and 42Gr2898.
### Table 11.1. Abajo-La Sal Style Sites in Southeastern Utah.

<table>
<thead>
<tr>
<th>Site Name/Number</th>
<th>Architecture</th>
<th>Ground Stone</th>
<th>Lithics</th>
<th>Ceramics</th>
<th>Mesa Verde</th>
<th>Kayenta</th>
<th>Fremont</th>
<th>Unknown</th>
<th>Barrier Canyon</th>
<th>Glen Canyon Style 5</th>
<th>Uncompahgre</th>
<th>Basketmaker</th>
<th>Pueblo</th>
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<th>San Rafael</th>
<th>Depiction of Weaponry</th>
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### Table 11.2. Abajo-La Sal Sites in Southeastern Utah with Temporally Diagnostic Artifacts.

<table>
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<th>Site Name/Number</th>
<th>Architecture</th>
<th>Ground Stone</th>
<th>Lithics</th>
<th>Ceramics</th>
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Site 42Sa13804 is a habitation site with a cist and a single-room structure (Figure 7.21; Figure 7.22; Figure 11.1). Temporally diagnostic artifacts include an unknown projectile point (post A.D. 500), black-on-white (A.D. 500 to 1300), grayware (A.D. 450 to 1300), and corrugated (A.D. 900 to 1300) sherds. These ceramics have a targeted date between A.D. 900 and 1300 and cultural affiliation was not determined. The most probable period of occupation for this site is between A.D. 900 to 1300.

The Potash Road Petroglyph Site is a habitation site with a pit house that was excavated (Figure 9.2; 9.3; 9.4; 9.5; 9.6; and Figure 11.1). Temporally diagnostic artifacts include numerous side-notched and square-based projectile points (post A.D. 500), black-on-white sherd spindle whorls (A.D. 500-1300), Mancos Black-on-White (a Mesa Verde type dating to A.D. 900 to 1150) and various Tusayan wares (Kayenta types dating to A.D. 950 to 1300). The ceramics have a targeted date range of A.D. 950 to 1150. The most probable period of occupation for this site is between A.D. 950 to 1150.

Site 42Gr2898 is a habitation site (Figure 10.15). Temporally diagnostic artifacts include Mancos Black-on-White (a Mesa Verde type dating from A.D. 980 to 1150), Mancos Corrugated (a Mesa Verde type dating from A.D. 900 to 1200), and Mesa Verde Gray (A.D. 450 to 1300). The targeted ceramic date range for this site is A.D. 980 to 1150 and is the most probable period of occupation.

Taken together 42Sa13804, the Potash Road Petroglyph Site, and 42Gr2898 mostly likely had an occupation that occurred between A.D. 900 to 1300, based the ceramic assemblages. This date range should not be extended to other Abajo-La Sal Style sites or be interpreted as a proposed date range for this style. Only two of the sites have evidence for a cultural affiliation based on ceramic assemblages, Mesa Verde for
one site, and Mesa Verde and Kayenta at the other. The sample size, however, precludes making broader generalization as to the temporal placement or cultural affiliation of the Abajo-La Sal Style.

The general lack of temporal indicators at Abajo-La Style sites raises additional questions regarding the ratio of rock art sites with and without temporal indicators. A one-tail chi-square test indicates that the proportion of Abajo-La Sal Sites with (n=3) and without (n=8) temporal indicators compared the other rock art sites in the database with (n=22) and without (n=15) temporal indicators is statistically significant ($\chi^2=3.520$, df=1, $p=0.0303$). This result suggests that the lack of temporal indicators at Abajo-La Sal sites is not indicative of the patterning at the other rock art sites included in the dataset as these other sites frequently have temporal indicators.

Additional Abajo-La Sal Style sites have been identified in Colorado; these eight sites were reviewed for information with reference to temporal placement and cultural affiliation. Cole (1987, 1990) discusses the sites with regard to the rock art themes, and some of her information is based on Toll’s (1977) work; this information is summarized in Table 11.3. Rock art imagery is the primary focus of these discussions but Toll provides additional information about the artifacts at 5Me168, 5Me175, and 5Mn443. These artifacts include debitage, a chopper, a biface, and a core/hammer stone; as such, there are no additional data on temporal placement or cultural affiliation.
Table 11.3. Abajo-La Sal Style Sites in Colorado.

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<td>5Me358</td>
<td>rock art theme: single anthropomorph with outlined head (pg 143, 176)</td>
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<tr>
<td>5Me368</td>
<td>rock art theme: bear tracks, simple anthropomorphs, banded circle</td>
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<tr>
<td>5Me375</td>
<td>rock art theme: sun disc, anthropomorph, maze</td>
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<tr>
<td>5Me329</td>
<td>rock art theme: stick to curvilinear anthropomorphs attributed to La Sal Anasazi (pg 140, 170)</td>
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<tr>
<td>5Me443</td>
<td>rock art theme: similar to Toll's description with more detail (pg 139-141, 187-179)</td>
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<tr>
<td>5Me9</td>
<td>rock art theme: fringed line, elongated anthropomorphs</td>
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<td>5Ma14</td>
<td>rock art theme: triangular-trapezoidal anthropomorphs</td>
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<tr>
<td>La Sal Creek</td>
<td>rock art theme: flute players, linked figures, variety of shapes of anthropomorphs (pg 180-181)</td>
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</table>

Here, I have attempted to clarify the temporal placement and cultural affiliation for the Abajo-La Sal Style to help place this style in context. After a thorough review, there are insufficient data to place this style in temporal or cultural context. Other rock art found with the Abajo-La Sal Style are presented in Table 11.4. These rock art styles include: Barrier Canyon, Glen Canyon Style 5, Uncompahgre, Pueblo, and San Rafael. The strength and weakness of these relationships are evaluated in the following section.

Table 11.4. Abajo-La Sal Sites and other Rock Art Styles in Southeastern Utah.

<table>
<thead>
<tr>
<th>Site Name/Number</th>
<th>Barrier Canyon</th>
<th>Glen Canyon Style 5</th>
<th>Uncompahgre</th>
<th>Basketmaker</th>
<th>Pueblo</th>
<th>Abajo-La Sal</th>
<th>San Rafael</th>
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<td>42Sa13804</td>
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</tr>
<tr>
<td>Portal Area</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>42Ca2626</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mill Creek Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42Gr3176</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The table contains additional data on the rock art styles and sites, including temporal ranges and the presence or absence of specific motifs.
Rock Art Style Associations

In this section, I focus on the representational styles present in southeastern Utah and how they vary among each other and against the archaeological record. This includes San Rafael (i.e., Fremont), Pueblo (i.e., Anasazi), Abajo-La Sal (i.e., Fremont and Anasazi), and styles thought to be influential in the study area (Barrier Canyon, Glen Canyon Style 5, Uinta, and Uncompahgre). The relationships or associations between rock art styles have been largely based on stylistic attributes. However, the association of rock art styles to each other and their relation to nearby archaeological attributes have not been addressed systematically and may be counterintuitive. My second research question seeks to address this issue:

**Question 2:** What are the relationships among rock art styles at these sites, and do they spatially associate with archaeological site attributes?

In order to deal with this question the correlation among selected rock art styles for patterns of association was analyzed. I also looked at how the rock art styles clustered based on site characteristics that include architecture, lithics, ground stone, and ceramics.

Correlation of Rock Art Style Associations

Correlation is a measure of the relationship between two or more variables. The correlation coefficient is a numerical statement of the linear relationship between two variables that can be positive (1), indicating a strong
pattern of association, to negative (-1), indicating a strong pattern of no association (Table 11.5, *top number*). The closer the coefficient is to either 1 or -1, the stronger the correlation between variables. The statistical significance of the relationship is expressed in a p-value (Table 11.5, *bottom number*). The results are presented in Table 11.5 (significant or tending towards significant p-values are in bold and highlighted) and visually depicted in Figure 11.2. This is based on the database of 48 sites included in this study (see Appendix A).

Table 11.5. Correlation of Rock Art Style Associations.

<table>
<thead>
<tr>
<th></th>
<th>Barrier Canyon</th>
<th>Glen Canyon Style 5</th>
<th>Uncompahgre</th>
<th>Basketmaker</th>
<th>Pueblo</th>
<th>Abajo-La Sal</th>
<th>San Rafael</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrier Canyon</td>
<td>1.00000</td>
<td>0.34188</td>
<td>0.20790</td>
<td>-0.30593</td>
<td>-0.16265</td>
<td>-0.05621</td>
<td>-0.11525</td>
</tr>
<tr>
<td>Glen Canyon Style 5</td>
<td>0.0174</td>
<td>1.00000</td>
<td>0.30259</td>
<td>-0.24405</td>
<td>-0.07785</td>
<td>0.01499</td>
<td>-0.09194</td>
</tr>
<tr>
<td>Uncompahgre</td>
<td>0.20079</td>
<td>0.30259</td>
<td>1.00000</td>
<td>0.02766</td>
<td>0.04572</td>
<td>0.19604</td>
<td>-0.06428</td>
</tr>
<tr>
<td>Basketmaker</td>
<td>-0.30593</td>
<td>-0.24405</td>
<td>0.02766</td>
<td>1.00000</td>
<td>0.25299</td>
<td>0.06546</td>
<td>0.33216</td>
</tr>
<tr>
<td>Pueblo</td>
<td>0.0345</td>
<td>0.0940</td>
<td>0.8500</td>
<td>0.0828</td>
<td>1.00000</td>
<td>0.06546</td>
<td>0.0211</td>
</tr>
<tr>
<td>Abajo-La Sal</td>
<td>-0.16025</td>
<td>-0.09194</td>
<td>0.04952</td>
<td>0.23599</td>
<td>1.00000</td>
<td>-0.11519</td>
<td>-0.39360</td>
</tr>
<tr>
<td>San Rafael</td>
<td>0.2694</td>
<td>0.5988</td>
<td>0.7576</td>
<td>0.0828</td>
<td>0.4356</td>
<td>0.0056</td>
<td>0.1807</td>
</tr>
</tbody>
</table>

Sites that have one type of Archaic rock art style often have another Archaic rock art style. Sites that have Barrier Canyon imagery often have Glen Canyon Style 5 imagery (*p*=0.0174). Sites that have Glen Canyon Style 5 imagery often have Uncompahgre Style imagery (*p*=0.0366). However, there is no pattern of association between Barrier Canyon Style and Uncompahgre Style.
Interestingly, sites that have Archaic rock art imagery are less likely to have more recent rock art styles (i.e., Basketmaker, Pueblo, and San Rafael). For example, sites that have Glen Canyon Style 5 imagery are less likely to also have Basketmaker imagery; the pattern of no association is tending towards statistical significance, that is “roughly right” ($p=0.0946$). The pattern of no association is even clearer as sites that have Basketmaker style imagery often do not have Barrier Canyon ($p=0.0345$). In addition, sites that have Basketmaker imagery are less likely to have Pueblo imagery; the pattern of no association is tending towards statistical significance ($p=0.0828$).

In contrast, there is a strong pattern of association between sites with Basketmaker and San Rafael imagery ($p=0.0211$). There is a strong pattern of
association among San Rafael and Pueblo imagery; if one type is present, it is very likely that the other will also be present ($p=0.0056$).

There are no patterns of associations with regard to the Abajo-La Sal Style, but sample size is so small that it is difficult to draw any statistical inferences. As the Abajo-La Sal Style is considered to share stylistic characteristics with Basketmaker, Barrier Canyon, San Rafael (Cole 1990:151-2, 157), and Uncompahgre styles (Cole 2006:194), it is interesting to note that there are no patterns of association with these other styles.

*Cluster Relationships among Rock Art Styles and Site Characteristics*

Clustering is an exploratory technique that finds patterns within the data and segments it into groups or clusters. Objects in each cluster should be alike and dissimilar to other clusters. SAS (statistical software) divided the dataset into three clusters, which are summarized in Table 11.6 and Table 11.7. For example, the percentage of sites in Cluster 1 that had architecture is 67%, while all of the included sites had lithics.

Cluster 1 is composed of 12 rock art sites with the following characteristics: lithics, followed by ground stone, and some architecture and ceramics. The defining factor for this cluster is the presence of lithics and ground stone. Cluster 1 is weighted towards San Rafael, followed by Basketmaker, it also has the highest representation of Barrier Canyon Style.

Cluster 2 is composed of 24 rock art sites with no known archaeological materials in association or very low levels. This general lack of artifacts and features is the defining factor for this cluster. Cluster 2 is heavily weighted towards the more recent
rock art styles, with the highest representation of the Abajo-La Sal and San Rafael; there are some levels of Basketmaker and Pueblo, with low levels of Uncompahgre, Barrier Canyon, and Glen Canyon Style 5.

Cluster 3 is composed of 12 rock art sites that contain ceramics and lithics but little to no ground stone and architecture. In Cluster 3, there are high representations of the more recent Basketmaker, Pueblo, and San Rafael rock art styles. Archaic styles are generally lacking, represented by only one site with Uncompahgre, which extends from Archaic to more recent times.

Table 11.6. Cluster Relationships of Rock Art Sites and Archaeology.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Architecture</th>
<th>Ground Stone</th>
<th>Lithics</th>
<th>Ceramics</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>67</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>4.2</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>42</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 11.7. Distribution of Rock Art Styles in Clusters.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>12</td>
<td>24</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Barrier Canyon</td>
<td>19</td>
<td>3</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Glen Canyon Style 5</td>
<td>9.5</td>
<td>1</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Uncompahgre</td>
<td>19</td>
<td>2</td>
<td>15</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Basketmaker</td>
<td>38</td>
<td>4</td>
<td>30</td>
<td>7</td>
<td>75</td>
<td>8</td>
</tr>
<tr>
<td>Pueblo</td>
<td>19</td>
<td>2</td>
<td>40</td>
<td>9</td>
<td>88</td>
<td>7</td>
</tr>
<tr>
<td>Abajo-La Sal</td>
<td>14</td>
<td>1</td>
<td>35</td>
<td>8</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>San Rafael</td>
<td>48</td>
<td>6</td>
<td>75</td>
<td>17</td>
<td>75</td>
<td>8</td>
</tr>
</tbody>
</table>
The geographic distribution of the clusters is summarized in Table 11.8. Sites from each of the sub-areas are more or less evenly represented in Cluster 2 (low-levels to no archaeology in association). Sevenmile Canyon is not represented in Cluster 3, while being equally distributed between Cluster 1 and 2. In contrast, approximately half of the sites along Indian Creek, the Portal Area, and Mill Creek are in Cluster 2 and the rest are split between Cluster 1 and 3.

### Table 11.8. Distribution of Sub-Areas in Clusters.

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1 %</th>
<th>n=</th>
<th>2 %</th>
<th>n=</th>
<th>3 %</th>
<th>n=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Creek (n=14)</td>
<td>21</td>
<td>3</td>
<td>43</td>
<td>6</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>Sevenmile Canyon (n=8)</td>
<td>50</td>
<td>4</td>
<td>50</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Portal Area (n=12)</td>
<td>17</td>
<td>2</td>
<td>58</td>
<td>7</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>Mill Creek Area (n=14)</td>
<td>21</td>
<td>3</td>
<td>50</td>
<td>7</td>
<td>21</td>
<td>8</td>
</tr>
</tbody>
</table>

The most significant implication of the analysis is that the highest levels of Abajo-La Sal and San Rafael styles are found in Cluster 2, where very low-levels or no known archaeological materials are in association.

**Rock Art Style and Archaeological Chronologies**

The relationships between archaeological affiliations and chronologies and rock art styles are not often examined. My third research question speaks to this issue:
**Question 3**: Do the presumed date ranges of rock art styles match with the dates of associated archaeological assemblages?

The relationship of archaeological assemblages and rock art styles is not always straightforward as some sites show evidence for occupation, abandonment, and reoccupation.

**Relationship of Rock Art Styles and Archaeological Chronologies**

The relationship of rock art styles and archaeological chronologies is summarized in Table 11.9. At approximately half of these sites, there are insufficient data from which to draw comparisons, and for several other sites, the data are indeterminate, or there are some data but comparisons are tenuous at best. Hence, these sites will not be considered further. At seven sites, there was a fit between the rock art styles date ranges and other temporal information. The most common type of temporal information was from ceramics. Only three of these sites have typed ceramics 42Sa13797 (Mesa Verde), 42Sa13859 (Mesa Verde), and Potash Petroglyph Road (Mesa Verde and Kayenta).

At five of the sites, there was dissimilar or conflicting information from rock art and archaeological chronologies. A similar threads run through most of these sites as they are all larger, complex sites and most have been subjected to further testing. These sites all show a series of occupations and periodic abandonments.
Table 11.9. Relationship of Rock Art Styles and Archaeological Chronologies.

<table>
<thead>
<tr>
<th>Fit</th>
<th>Lack of Fit</th>
<th>Insufficient Data</th>
<th>Indeterminate</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=7</td>
<td>n=5</td>
<td>n=26</td>
<td>n=10</td>
</tr>
<tr>
<td>Shay Canyon Mastodon</td>
<td>Big Sheep Ruin</td>
<td>Newspaper Rock</td>
<td>42Sa13796</td>
</tr>
<tr>
<td>42Sa13797</td>
<td>Bartlett Flats Pictograph Alcove</td>
<td>42Sa13861</td>
<td>42Sa13804</td>
</tr>
<tr>
<td>42Sa13807</td>
<td>North Fork Rockshelter</td>
<td>42Sa20493</td>
<td>White Hands Boulder</td>
</tr>
<tr>
<td>Boulder Top Village</td>
<td>Grant’s Thesis</td>
<td>42Sa20494</td>
<td>42Gr2219</td>
</tr>
<tr>
<td>Potash Road Petroglyph</td>
<td>White Basketmaker</td>
<td>42Sa20496</td>
<td>Push Me, Pull Me</td>
</tr>
<tr>
<td>Moab Mammoth</td>
<td></td>
<td>42Sa20498</td>
<td>Sally Basketmaker</td>
</tr>
<tr>
<td>42Gr3235</td>
<td></td>
<td>Legless Goat</td>
<td>42Gr3661</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2196</td>
<td>Dancing on a Bear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2215</td>
<td>Sheep on Parade</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2217</td>
<td>Sipapu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2221</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2224</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night Dance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Birthing Rock</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moonflower Canyon</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dinosaur Tracks</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Owl Panel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fringe-legged Sheep</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2625</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr2626</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry Falls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mountain Boomer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Boulder</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr3175</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>42Gr3176</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moab Golf Course</td>
<td></td>
</tr>
</tbody>
</table>

Big Sheep Ruin Site is a Mesa Verde affiliated village with distinctive San Rafael Style anthropomorphs. Bartlett Flats Pictograph Alcove is affiliated with Archaic, Basketmaker, and Fremont groups with Barrier Canyon Style anthropomorphs. North Fork Rockshelter is affiliated with Basketmaker, Mesa Verde, and Fremont groups with Basketmaker and San Rafael rock art styles. Grant’s Thesis is affiliated with Mesa Verde with Basketmaker and Pueblo rock art styles. White Basketmaker is affiliated with Mesa Verde and Uncompahgre with Archaic and Basketmaker rock art styles. In sum, these
sites highlight the interaction and ties for these groups across social and symbolic landscapes and reveal a sense of place.

**Relationship of Rock Art Styles and Archaeological Affiliations**

The relationships between rock art styles and ceramics are summarized in Table 11.10. These are not one to one counts as several of the sites have multiple ceramics types, hence a site could be represented more than once (e.g., Potash Road Petroglyph Site with Mesa Verde and Kayenta ceramics). The majority of the sites with ceramics fall under the unknown ceramic affiliation category, followed by sites with Mesa Verde ceramics. There are very few sites with Fremont or Kayenta affiliated ceramics. The highest representation of Mesa Verde ceramics are at sites with San Rafael Style. In general, ceramics are more likely to be at sites with non-Archaic rock art styles.

![Table 11.10. Relationship of Rock Art Style to Ceramic Affiliation.](image)

The results of the research questions are summarized here. The various proposed date ranges for the Abajo-La Sal Style may be a result of the general lack of indicators of temporal placement or cultural affiliations. Hence, there is no archaeological evidence to
support the proposition that this style arose out of interaction between Fremont and Anasazi. There appears to be a schism between Archaic rock art styles and more recent styles based on the distinctive patterns in space. There are strong patterns of association between Basketmaker and San Rafael Style imagery, and a strong pattern of association between San Rafael and Pueblo imagery. The Abajo-La Sal Style is different from the other rock art styles and appears to be an outlier. Abajo-La Sal and San Rafael styles frequently occur at sites with low levels or no known archaeological materials in association. In general, ceramics are more likely to be at sites with non-Archaic rock art styles. There are very few sites with Fremont or Kayenta affiliated ceramics. The sites with San Rafael Style and ceramics show the highest representation of Mesa Verde ceramics.

Cultural transmission theory provides a framework in which to explain variation, similarity, and relatedness. Analysis of cultural variability should include more than one measure of relatedness, each of the measures are valid but represent alternative pathways of information. Hence, the unit under examination will be more similar to one group when measured using one attribute and more similar to a different group when measured along a different attribute (Eerkens and Lipo 2007). Processes of cultural transmission are greatly affected by the content, context, as well as the mode of transmission. The content of information is mediated by worldview or cultural context, which plays a key role in structuring how individuals interpret and reproduce knowledge. The most prominent analysis of content is the analysis of stylistic variability, as choices are subject to cultural preference (Eerkens and Lipo 2007).
Here, I have demonstrated how these traits vary, how they are similar, and the ways in which they are related archaeologically for the sites in my study area. This examination provides a framework to illuminate some of the transmission processes at play in the Moab area. This is a region where there appears to be a low level migration into Moab and surrounding areas during the late 8th and 9th centuries (Pueblo I times) the late A.D. 800s (Pueblo I times). This is followed by a more substantial migration in the 11th and 12th century (late Pueblo II to early Pueblo III). These migrations appear to be primarily from groups with a Mesa Verde heritage.

The movement of Mesa Verde groups into the area is also supported by Varian’s (1999) research that demonstrates out-migration of small-kin groups in the Mesa Verde area, particularly during the mid- A.D. 1100s. This period was also a time of significant upheaval in the southwest as violence and acts of aggression were increasing (Billman et al. 2000; Lambert et al. 2000a; Lambert et al. 2000b; Turner 1993; Turner and Morris 1970; Turner and Turner 1999; White 1992).

Cultural transmission theory suggests some of the possible outcomes depending on the mode of transmission. The mode is the process by which information is acquired and transmitted, and these different modes can have dramatic effects. Although the high frequencies of San Rafael Style anthropomorphs at Mesa Verde affiliated habitations could be the result of several different possibilities, I propose that it may be reflective of the desire to indicate social ties with their neighbors to the north.

Migration into a new habitat means that some will adopt beliefs and values appropriate in the new habitat. Individuals that aligned themselves with their neighbors to the north (i.e., Fremont) may have been more successful in developing trade networks.
As these individuals were imitated by their peers the frequency of Fremont or Fremont-like rock art would have increased markedly through horizontal transmission. This is also a result of individuals established widening alliances and networks and consciously making choices about how to represent their social identity. In this scenario, San Rafael Style anthropomorphs are symbolic markers of group membership that signaled alliances on a social landscape. The alliances that these images signaled would have been recognizable indicators of in- versus out-groups.

Thus, rock art could be an effective form of communication that conveyed social roles and group membership. The stylized anthropomorphic figures may point to a particular manner in which these identities were expressed, despite or because of boundaries among groups. Group identity is inextricably linked to the preservation of a collective memory wherein the images found in rock art may be an indicator of commemorated acts that defined group identity and expressed this identity to others—a social landscape. I propose that the stylistic expressions found in rock art are a result of cultural transmission where some cultural variants were preferentially adopted over others and in turn symbolically displayed in rock art.

**Future Research Directions**

This study has provided a baseline for future research, which can be built on to examine the archaeology and rock art in the Moab area. I highlight three additional avenues for research: stylized anthropomorphs, ceramic studies, and depictions of weaponry in rock art.
Stylized Anthropomorphs

Highly stylized or conventionalized anthropomorphs hold useful information. These types of elements possess stylistic attributes such as internal body designs, body shape, and size. Through analysis of the variation in the stylistic attributes of anthropomorphs questions regarding the different types of cultural transmission may be answerable. This can be conducted by looking at the differences in the correlation of attributes, variation within a single motif, and variation in the number of types.

Ceramic Studies

A central issue of ceramic studies is the question of trade versus local production. If the ceramic patterns in the Moab area are to be more fully understood, more work is needed into sourcing temper and clays, and into manufacturing technology. Little research along these lines has been conducted in this area, but a notable exception is Blinman (2000) who conducted a preliminary examination into regional ceramic assemblages and possible clay sources. This type of work has considerable research potential.

For example, Zedeño’s (1995) research into archaeological ceramic assemblages in east-central Arizona demonstrates the movement of pots across geographical, social, and ethnic boundaries. Zedeño demonstrated that several non-local pots were obtained through trade networks, and small social units brought pottery with as they migrated into the area and then manufactured pottery with local materials. Zedeño found that ethnic co-residence stimulated the transfer of knowledge as the technological aspects varied
between pottery that looked similar based on design style. Hence, technological features may be more of an accurate indicator of social and ethnic differences than design style.

**Anthropomorphs with Weaponry**

The use or adoption of particular weaponry (i.e., atlatl or bow) has the potential to be a signifier of group identity and allegiance. As previously discussed (Chapter 5), the bow and arrow had a patchy adoption in southeastern Utah. In Western Basketmaker II populations, the bow and arrow was not common until about A.D. 600, while indigenous Fremont (or proto-Fremont) groups had the bow and arrow by A.D. 100 to 200, and Eastern Basketmaker II show hints of the adoption of the bow and arrow at some sites as early as A.D. 150 to 450.

Figure 11.3 illustrates selected sites with highly stylized anthropomorphs with bow and arrow or atlatl and dart. Site 42Gr3661 has an atlatl dart piercing a sheep and is adjacent is a highly stylized anthropomorph with a chest pendant that may be general Basketmaker (100 B.C. to A.D. 750) or San Rafael (A.D. 700 to 1250). The Push Me, Pull Me Site depicts two anthropomorphs with bow and arrow that are Glen Canyon Style 5 (1000 B.C. to A.D. 500). The Sheep on Parade Site has two anthropomorphs with bow and arrow that is San Rafael Style (A.D. 700 to 1250).
Although, with the exception of the Potash Road Site, these particular examples do not have known archaeological materials in association, there is further research potential. For example, an analysis that compares stylized anthropomorphs with weaponry, for trends and patterns in rock art styles and in the archaeology, has a fair amount of research potential.

In this study, I have established a comprehensive baseline for future research based on rock art in archaeological context. Various factors need to be taken into account and caution must be exercised when using rock art for dating and affiliation. The rock art of southeastern Utah is important to broader studies for its variability and for the fluidity of frontiers.
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# APPENDIX A: DATABASE OF ALL SITES

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<td>1000 B.C. to A.D. 700</td>
<td>700-1250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sky Falls</td>
<td>X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A.D. 500-900</td>
</tr>
<tr>
<td>Mountain Boomer</td>
<td>X X X</td>
<td>900-1150</td>
<td>900-1200</td>
<td>700-1250</td>
<td></td>
<td>A.D. 900-1150</td>
</tr>
</tbody>
</table>