The Morris Site 1 Early Navajo Land Use Study:

Gobernador Phase Community Development in Northwestern New Mexico

Volume 1

NNAD Fruitland Data Recovery Series No. 4

Edited by
Douglas D. Dykeman

with contributions by
Douglas D. Dykeman; James K. Feathers, Ph.D.;
John D. Goodman II; Richard G. Holloway, Ph.D.;
Kristin Langenfeld; Pamela J. McBride;
Mollie S. Toll; John A. Torres; Ronald H. Towner, Ph.D.;
Lawrence E. Vogler; and Jeffery T. Wharton

Submitted by
Anthony L. Klesert, Ph.D., Director
Navajo Nation Archaeology Department
P.O. Box 689
Window Rock, Arizona 86515

NM BLM Permits 10-8152-94-6, 10-8152-95-7, and 10-8152-96-8
State Permits 94-036, 94-061, 95-036, 95-061, 96-036, and 96-061

Prepared for

Williams Field Services
San Juan Basin Projects
P.O. Box 1456
Bloomfield, New Mexico 87413

Navajo Nation Papers in Anthropology No. 39

April, 2003

Abstract

The Navajo Nation Archaeology Department and Cultural Resources Management Consultants, Inc., conducted archaeological data recovery in a 598-ha project area centered on Morris Site 1 (LA 83529). This project was conducted on behalf of Williams Field Services, Inc., as part of a larger federally administered program to mitigate adverse effects of Fruitland coal gas development. The Morris Site 1 project was selected for data recovery in conjunction with the Memorandum of Agreement (MOA) between the Bureau of Land Management--Farmington Field Office and the New Mexico State Historic Preservation Office concerning the Fruitland coal gas data recovery program. All archaeological work was conducted pursuant to an approved data recovery plan and complies with the specifications of the MOA and related data comparability guidelines. Fieldwork was conducted from 1994 through 1996 and consisted of archaeological inventory, focused data recovery, and excavation procedures.

The project area is located in Northwestern New Mexico on the south flank of Frances Mesa overlooking Gobernador Canyon. In total, 473 ha of public land and 125 ha of New Mexico state trust lands were investigated for archaeological resources. Class III archaeological inventory was conducted on 202 ha of public lands and 104 ha of state trust lands. Class II sample inventory was conducted on 292 ha: 271 ha of public land and 21 ha of State trust lands. Archaeological investigations on state of New Mexico trust lands were conducted under archaeological permits 94-036, 95-036, and 96-036 (NNAD) and 94-061, 95-061, and 96-061 (CRMC). Investigations on lands administered by BLM-FFO were authorized by ARPA permits 10-8152-94-6, 10-8152-95-7, and 10-8152-96-8.

In total, 155 archaeological sites were investigated for the Morris Site 1 project; 101 sites occurred on public lands administered by the Bureau of Land Management-Farmington Field Office, 44 sites occurred on New Mexico state trust lands and 10 sites occurred on lands of multiple ownership status. Project personnel recorded 123 sites and updated 17 previously recorded sites. The remaining 15 sites were documented from existing records and incorporated into the project's analytical structure, but were not updated by field crews. One hundred forty-five sites appear to meet the criteria for National Register eligibility, 8 sites do not appear to be eligible, and the eligibility status of 2 previously recorded sites is listed as "not sure."

Small test excavation units were placed in the midden deposits of 11 sites, as part of a focused data recovery plan that was designed to recover datable materials. Testing procedures were conducted at 5 sites (LA 79456, LA 105929, LA 105930, LA 106199 and LA 106203) situated on public land, 5 sites (LA 83529, LA 105428, LA 105530, LA 105630, and LA 110278) on state trust land, and 1 site (LA 105475) on public and state trust lands.

Two sites located on public lands, LA 11196 and LA 88766, were treated by excavation methods as specified by the Morris Site 1 project data recovery plan. Excavations at 11196 revealed the remains of a multiple-unit habitation site consisting of two hogans and many spatially associated cultural features. Sparse cultural remains at LA 88766 indicate that the site was used for hide processing. Both sites were occupied during the Gobernador phase and likely date in the early to mid-A.D. 1700s.

The Morris Site 1 Early Navajo Land Use study makes significant contributions to early Navajo chronology and community organization. A comparison of tree-ring and thermoluminescense dates obtained from surface and near-surface samples indicates significant correspondence in results. This suggests that these absolute dating techniques are adaptable and reliable for archaeological inventory purposes. Investigation into early Navajo community organization indicates social groupings at multiple levels for specific socioeconomic purposes. These groupings are weakly hierarchical and group membership appears to be somewhat fluid, thus improving ability to respond quickly to changes in cultural and environmental conditions. Altogether this study suggests a level of complexity in early Navajo culture heretofore understated.

Table of Contents

CHAPTER 3:
A BACKGROUND FOR EARLY NAVAJO STUDY

by Douglas D. Dykeman

Early Explorations (circa A.D. 1890-1935)

A. V. Kidder was probably the first archaeologist to consider the cultural affinity and chronological placement of early Navajo sites in northwestern New Mexico. In 1912, he visited the ruins in Gobernador and Largo canyons (Kidder 1913, 1920). Two of the three ruins illustrated by Kidder can be easily identified as Three Corn ruin and Old Fort. The identity of the third ruin is unclear.

To Kidder the ruins contained an interesting combination of Puebloan and Navajo attributes. The presence of stone masonry architecture appeared to be of pueblo affinity, but with them were clearly associated wooden, hogan-like structures—sometimes surrounded by stone walls. Moreover, the pottery sherds associated with the sites consisted of "three color painted ware" and "black ware of unknown cultural affinity." Kidder (1920) recognized other painted ware found on these sites as characteristic of the Pecos and Tano areas. Axe-cut beams in the structures indicated an historic Postcontact occupation of the sites.

Having made these observations, Kidder formulated a set of conclusions that would have a lasting effect on archaeological concepts of the Navajo occupation of the Southwest.

> Two points are obvious from the foregoing: *first* that these houses were built during the Historic period; and *second* that their builders were probably in contact with the Navajo or some other people who made circular, earth-covered lodges of wood.
>
> Two explanations of their origin present themselves: first, that their inhabitants were, so to speak, indigenous, and that iron tools, livestock, etc., were transmitted to them by tribes farther south who were in actual contact with the Spaniards; second, that their builders were members of one of the Pueblo tribes, who for some reason came north, lived in the Gobernador region for a time, and then either returned to their former houses, or were destroyed (Kidder 1920:327).

Kidder rejects the first explanation of the origin of these sites by suggesting that Spanish documents fail to mention trade with northern settlements. Kidder accepts the second argument of a short-term Pueblo occupation and supports this with passages from Adolph Bandelier (Kidder 1920). Bandelier indicated that Acoma and Jemez pueblos were abandoned as a result of the well-documented Spanish reconquest of the upper Rio Grande valley in A.D. 1696. These pueblos were said to be abandoned for 10 years, their inhabitants fleeing "north to the Navajo country" (Bandelier, cited by Kidder [1920:328]). In the absence of excavation data and absolute dates, the correspondence of the archaeological and historical information appeared to Kidder to be a good fit. Navajo country was an ideal refuge for Pueblos escaping the Spanish reconquest. Kidder, however, recognized the sparseness of his information, suggesting that a comparison of pottery from the Gobernador sites would resolve the issue of which pueblo villages were involved in the Navajo area. Moreover, he acknowledged the lack of information that would indicate when the pueblos and towers of Gobernador were built.

Kidder (1920) mentions the work of two other archaeologists, Earl Morris and Nels C. Nelson, in conjunction with early Navajo sites. In 1915, Morris conducted excavation on six sites in the Largo-Gobernador area (Carlson 1965). Morris, perhaps unknowingly, lent his name to a number of ruins in the Southwest including Morris Site 1, the object of the current study. Nels C. Nelson traversed areas in Largo and Gobernador canyons in 1916, and visited several, if not all of the sites excavated by Morris in the prior year. The archaeological material from these excavations was described and published by Carlson in 1965, after Morris' death. Carlson's contribution to early Navajo archaeology is discussed in greater detail below.

While citing the lack of evidence about Navajos in the Spanish documents, Kidder was apparently unaware of ethnohistoric explanations of the antiquity of Navajo culture and Spanish contacts.

Some of the first ethnohistorical consideration of early Navajo culture occurred in the late nineteenth century. Hodge (1895) used Spanish documents and Matthews' (1994[1897]) interpretations of Navajo oral tradition to arrive at a number of conclusions about early Navajo history. First, the oral history of the Navajo was remarkedly accurate in comparison with Spanish chronicles from the mid-A.D. 1500s

forward. Second, the ancestors of the Navajo tribe entered the San Juan valley no earlier than the late fifteenth century, and unrelated Apache groups were already in the Southwest at the time of Navajo entry. This date is based on Matthews' estimate of 500 to 700 years for the creation of the first two human pairs documented in Navajo oral tradition. Third, Navajos did not conduct raids on Pueblos until the seventeenth century. Fourth, Navajos acquired sheep and other domesticated animals via the Pueblos soon after Coronado's entry in the early A.D. 1540s. Fifth, the Navajo were a "composite people" composed of several linguistic stocks prior to the eighteenth century. Some of Hodge's assertions, such as the original Navajo being cliff-dwelling people and an A.D. 1542 date for Kintyéli or Kintiel[1] in Chaco Canyon, have not withstood the test of time. Probably the most significant parts of Hodge's contribution were that Navajo oral history has value for historical research, Navajo entry in the Southwest could have been as early as the late fifteenth century, and Navajo acquired sheep shortly after the Spanish entrada in the mid-sixteenth century. Importantly, Hodge and Matthews believed that Navajo and Pueblo relations have much greater time depth than Kidder suggested 25 years later. Moreover, Hodge accepted an early date for Navajo entry into the Southwest, based on Matthews' interpretation of Navajo oral history.

Archaeological interest in early Navajo sites waned in the 1920s and early 1930s; however, by the late 1930s the Navajo occupation of Dinétah and surrounding areas was again a subject worthy of investigation. The primary goal of Navajo research during this period appears to follow up Kidder's thoughts on the effects of Puebloan influence on Navajo culture (Hogan 1989, 1991).

Archaeological Excavations 1935-1960

Beginning in 1939, Dorothy Keur conducted excavations at Big Bead Mesa in the eastern foothills of Mount Taylor. Navajo sites in the area were shown to date from the late eighteenth and early nineteenth centuries. The occupation apparently postdated the Gobernador sites, but some temporal overlap appeared likely because of similarities observed in the material culture of the two areas. The presence of hogan architecture and lack of pueblitos was taken as an indication that stone masonry residential architecture was not used by Navajos after leaving Dinétah. To Keur this was indirect evidence of Kidder's second hypothesis referring to a temporary presence of Pueblo peoples in Dinétah. Moreover, a reversion to a mor traditional Navajo lifestyle was argued to be a reasonabl consequence of a departure of Pueblo refugees (Keur 1941) The retention of select Pueblo traits evident at the Big Bea Mesa sites was then regarded as proof of the brief bu intensive contact with Pueblos during the Refugee perio and explained as the by-product of earlier Navaj acculturation (Keur 1941).

For addressing the issue of Navajo origins, Keur (1941 found the mixture of Navajo and Pueblo traits in th archaeological data to be consistent with Sapir's (1936) an Hoijer's (1938) interpretations of linguistic information. Th linguistic evidence indicated considerable associatio between northern (Canada and the Arctic Circle) an southern (Southwest and southern plains) Athabasca languages. Moreover, the Navajo language contained idiom that could be traced to Puebloan sources. The norther origin of Athabascan linguistic stock led Sapir (1936) t consider two routes of migration for early Athabascans– through the Great Basin and through the western plains Sapir (1936) dismisses the Great Basin route as improbabl and argues for the Plains route based on dialectic unity an similarity in cultural adaptation amongst the souther Athabascans. Keur (1941) found the Plains migratio hypothesis parsimonious with the Big Bead Mesa materia because Navajo (Athabascan) movement westward fron the Plains would force them to pass through Pueblo territory Navajo contact with Pueblo could be assured. Moreove the Dismal River culture, later known as the Dismal Rive aspect (Gunnerson 1960), represented early Athabascan us of the Plains. These groups appeared to be the logical sourc of Navajo ancestors (Keur 1941). The Plains migratio hypothesis for southern Athabascans including Navajo was later elaborated on linguistic grounds (Gunnerson 1956 and archaeological grounds (Hester 1962; Schaafsma 1979 1981, 1993, 1996).

On the basis of archaeological work conducted in th Gobernador area in 1938, Malcolm Farmer (1942) foun reason to suspect that the Pueblo refugee hypothesis wa flawed. Farmer cited a Spanish letter of A.D. 1789 in whic Uquate Y. Loyola describes Navajos constructing "ten roc towers within their encampment." Farmer observed that th presence of hooded fireplaces in pueblito structures i suggestive of Spanish influence. A hooded fireplace wa also noted by Kidder (1920), but apparently did not affec his conclusion of Puebloan construction. Farmer suggeste that historical evidence of Navajos constructing towers an archaeological evidence of Spanish influence in architectur

[1] The Navajo word Kintiel, meaning "wide ruins" or "broad ruins" has been applied to a number of Anasazi sites in the Southwest. One of these sites, Aztec Ruins, New Mexico, contains some evidence of an Athabascan or Ute occupation (Bearden and Hefner 1988).

style were indications of indigenous use of pueblitos. Consequently, the pueblo refugee hypothesis need not be the only explanation for the blending of Navajo and Pueblo traits in archaeological contexts.

Huscher and Huscher (1942, 1943) conducted numerous archaeological surveys in the San Luis Valley and neighboring mountainous areas of Colorado. They proposed Athabascan migration via an intermontane route and an early Southwest entry for Athabascans, including Navajos. The Huschers supported this argument with architectural description of stone-based hogans and ceramic evidence of thin-walled, pointed-base pottery similar to Navajo gray wares in New Mexico (see Keur 1941).

In 1944, Hall reported tree-ring dates ranging from 1491+X to 1541±20 from a Navajo hogan in the vicinity of Gobernador Canyon. The dates, in Hall's opinion, left little doubt as to the antiquity of Navajo culture, but he went further by linking Navajo culture with Gallina phase (ca. A.D. 1100). This linkage was based on the common attribute of scored, pointed-bottom gray ware pottery. Pressing further back in time, a linkage was made between Gallina phase and Rosa phase (ca. A.D. 700-850), again based on morphological similarity of ceramic vessels. Citing such evidence, Hall (1944) elaborated on the origin of Navajo culture, which he contended originated with nomadic groups engaged in a trading and raiding relationship with Rosa people. This relationship was maintained through Largo and Gallina phases into the twelfth century. After an apparent 200 to 300 hiatus in the occupation of the area, Navajo sites appear in the Gobernador area. Hall (1944) believed the Navajo might be the descendants of the nomadic peoples.

In the mid-1950s, Riley (1954) reviewed the status of Navajo archaeology and forwarded a number of conclusions. The most difficult problem concerning Navajo archaeology was a lack of consensus that recognized certain material culture traits as Navajo. Despite the difficulty of culture [illegible] assignment, some general conclusions were possible. First, Riley believed the available data indicated Navajo and other Athabascans entered the Southwest before A.D. 1500. Moreover, the best evidence was for an intermontane route for this migration. The time of differentiation between Navajos and other Athabascans was not known, but by the seventeenth century the Spanish chronicles were fairly consistent about identifying Navajos. Archaeologically, Navajo cultural affiliation was identified by hogans and associated pottery types, Navajo Utility (Dinetah Gray), Gobernador Polychrome, and Navajo Polychrome (Frances Polychrome). Through the seventeenth century the distribution of Navajo sites appeared to have been limited to the San Juan drainage; however, by the eighteenth century the evidence for Navajo material culture was more extensive to the west of Dinétah. Early Navajo sites from Canyon de Chelly, Chaco Canyon, and the Mount Taylor region were specifically mentioned. Riley's contribution to early Navajo archaeology represents the first synthetic statement that links early migration of the Navajo with an intermontane migration route.

Vivian (1960) investigated the early Navajo occupation of Chacra Mesa, located near Chaco Canyon in the southern portion of the San Juan Basin. Thirty-four sites were investigated and a sample of tree-ring dates indicated a late eighteenth-century occupation. Vivian suggested that the temporal overlap in the Navajo occupations of Dinétah and Chacra Mesa indicated a cultural connection. The Chacra Mesa early Navajo sites contained materials regarded as both contemporary with and directly descendant from the Dinétah. Vivian (1960) regarded the settlement of both areas as a series of rancherias, each controlled by a leader. This lack of tribal unification had competitive and stressful implications for internal and external relations of the Navajo.

Vivian (1960) took up the issue of Navajo acculturation and found a solution completely different from his contemporaries working on the Navajo Reservoir project. He suggested that prior to the Pueblo Revolt, Navajo groups supplied Pueblos with corn in times of extreme famine. This was a response to the depletion of Pueblo resources by the Spaniards. Economic stress among the Navajos was not unknown and was attributed in part to Ute and Comanche raiding. Pueblitos and walled compounds were cited as the physical evidence of raiding in the early eighteenth century. Vivian accepted Reeve's (1958) argument of poor relations with the Spaniards at this time, and isolation from the Pueblos (enforced by the Spaniards) was regarded as a primary cause for little importation of Puebloan decorated pottery wares. The Navajo reaction was the development of locally manufactured Gobernador Polychrome. Consequently, in contrast to the Navajo Reservoir researchers, Vivian (1960) suggested that there was only minor Puebloan influence on Navajo culture during the Refugee period.

Vivian (1960) regarded the Navajo cultural tradition as largely stable, subjected to elaboration rather than excessive change in the A.D. 1600 to A.D. 1800 period. The cultural tradition was in control when choosing material and technological traits to borrow from neighboring Puebloan and Spanish cultures. These elaborations were not long lived, because a reversion to a "basic Navajo pattern" occurred in the late eighteenth century (Vivian 1960:232).

The significance of the work of Hall, Farmer, Vivian, and the Huschers is that it began to question prevailing concepts of the timing for Navajo entry and the

circumstances of Navajo adaptation to the Southwest. These ideas harken back to late nineteenth-century ethnologies by Hodge and Matthews, and feature early arrival or indigenous development of Navajo culture and significant interaction with Pueblos prior to the Spanish reconquest of A.D. 1696.

To summarize, by the early 1940s Kidder's original explanations for the mixture of Navajo and Pueblo traits in the Gobernador area were still debated by archaeologists. What had become known as the refugee hypothesis argued for an influx of Pueblo peoples into Navajo country as the result of Spanish reconquest in A..D. 1696. The label "culture change hypothesis" may be applied to the concept of an early Athabascan arrival in the Southwest and Navajo development in Gobernador affected by trade with the Pueblos and later the Spaniards. The refugee hypothesis, however, must be regarded as the most compelling argument for archaeologists of the 1940s through 1960s.

Navajo Reservoir Project Research (1956-1966)

In 1956, salvage archaeological work sponsored by the National Park Service was begun on the Navajo Reservoir project along the San Juan River. Crews from the University of New Mexico conducted eight seasons of archaeological survey and excavation at the dam construction site and reservoir. The Navajo Reservoir project was the largest archaeological undertaking at the time and resulted in the documentation of 526 sites, of which 68 were investigated by excavation techniques. The discovery of significant numbers of early Navajo sites in the project area caused the research team, led by A. E. Dittert, Jr., to formalize the Navajo culture history of the area. Dittert et al. (1961) defined the Navajo period (A.D. 1500[?]-1775) as consisting of two cultural phases: Dinetah (A.D. 1550[?]-1698) and Gobernador (A.D. 1698-1775). These phases were said to be valid within the Navajo Reservoir District as defined by the geographic limits of the dam and reservoir.

Dinetah phase, as originally conceived, was a time when Navajo culture was thought to be traditional Athabascan and sustained little influence from Pueblo culture (see Dittert et al. 1961). Navajo sites were characterized as dominated by material culture related to hunting and gathering activities. Puebloan traits, other than a single trade ware, Jemez Black-on-white, were said to be largely absent from Dinetah phase assemblages. Only small numbers of sites documented by the reservoir projects actually fit into the description and it was expected that work outside the Navajo Reservoir District proper would eventually resolve the uncertainties of the Dinetah phase concept (Dittert et al. 1961).

Early Navajo Acculturation

In his consideration of early Navajo acculturation, Hester (1962) expanded the concept of Dinetah phase for the Navajo Reservoir District. Dinetah phase was marked by the occurrence of a few Puebloan traits in an otherwise traditional Athabascan material culture. Agriculture was acquired by Navajo groups as a consequence of migration from the Plains through Pueblo territories in northwestern New Mexico. Puebloan trade ware ceramics, like Jemez Black-on-white, and locally produced Dinetah utility were commonly found on Dinetah phase sites. Hester (1962) tentatively placed the beginning of Dinetah phase at A.D. 1500. This estimate was probably derived from late A.D. 1400s to mid-A.D. 1500s tree-ring dates reported by Hall (1944) from an early Navajo site in the upper San Juan area. Hester (1962) argued that the introduction of Gobernador Polychrome, a locally made decorated ware, marks the end of Dinetah phase. He correlated the appearance of Gobernador Polychrome with the period of the Pueblo Revolt (A.D. 1680-1696); and the Pueblo Revolt as the beginning of "strong Puebloan influences" on Navajo culture (Hester 1962:63). In sum, Hester regarded Dinetah phase as the beginning of Navajo acculturation in the Southwest.

In a discussion of Navajo culture change, Hester (1971) clarified his position on acculturation by describing a complex process largely dependent upon the traditions involved and nature of their contact. Navajo culture was the controlling factor in the acceptance or rejection of new cultural complexes and traits. Thus, the adoption of agriculture and certain Puebloan material culture was voluntary and deliberate on the part of the Navajo. Hester (1971) believed that prior to the Pueblo Revolt, intermittent contact between Pueblos and Navajos resulted in the exchange of a limited group of cultural elements. However, the revolt caused intensive contact and a fusion of the culture resulted in fundamental change for Navajo culture.

Navajo acculturation to Spanish and Anglo-American systems was characterized as different because of basic incompatibility between Navajo culture and western culture. In the case of Navajo-Spanish acculturation, the Navajos adopted useful material culture, but rejected political, social, and religious institutions. The Navajo experience and subjugation by western culture resulted in forcible acculturation and loss of some elements of traditional Navajo culture.

The important elements of Hester's (1971) consideration of Navajo culture change are the integrity of

the Navajo cultural core, and Navajo cultural autonomy even as the process of acculturation proceeds. This suggests that Hester used the term acculturation in the broad sense of the mutual influence of cultures in contact.

In the last published volume of the Navajo Reservoir project, Eddy (1966) summarized the massive amounts of excavation and survey data generated by the project. In a remarkable shift in course, Eddy cast doubt on the validity of Dinetah phase due to a lack of archaeological evidence. Eddy contended that Dinetah phase was originally presented as a hypothesis to be tested by the subsequent excavation work of the Navajo Reservoir project and this excavation work failed to produce evidence of Dinetah phase. Moreover, Eddy suggested that the concept of Dinetah phase was flawed because material culture ascribed to the phase was not unique and could not be confidently differentiated from Gobernador phase traits.

If there was some controversy among Navajo Reservoir project participants regarding Dinetah phase, then there appeared to be general consensus about the character of Gobernador phase. One reason for this was that the Gobernador phase concept had been developed earlier by Keur (1941, 1944) and Farmer (1942). Dittert et al. (1961) accepted Keur's (1944) definition of the phase and this became the standard usage for all parts of the Navajo Reservoir project (see Dittert and Shiner 1963; Hester 1962; Hester and Shiner 1963).

The Gobernador phase was marked by a strong influence on Navajo lifeways by Pueblo refugees from the Spanish reconquest of the Rio Grande valley between A.D. 1692 and A.D. 1696 (Dittert et al. 1961). Evidence cited for such influence was the sudden appearance of Rio Grande pottery types, European trade goods, and stone masonry architecture. Puebloan influence was also observed in the economy of this phase as agricultural practices become more widespread and perhaps more important for Navajos. European livestock, horses, sheep, and cattle, were introduced to the Navajo economy and these were thought to have been acquired via trade with Pueblo intermediaries or by raiding (Hester 1962).

Hester (1962) and Eddy (1966) indicated that polychrome pottery of Puebloan manufacture was strong evidence for close contact between Puebloan and Navajo groups during the Gobernador phase. One variety of polychrome pottery, Gobernador Polychrome, was locally manufactured and with few exceptions distributed within the Dinétah area. Because pre-revolt Navajo sites contained no evidence of locally manufactured polychrome pottery, the appearance of Gobernador Polychrome was attributed to Pueblo refugees living amongst the Navajo (Eddy 1966; Hester 1962). Moreover, the technical quality of this polychrome appeared to deteriorate through time. This was interpreted as initial manufacture by Pueblo refugees, but incomplete maintenance of the technology by Navajo potters after the Pueblos returned to their homelands (Eddy 1966). This poorly made variety was classed as Frances Polychrome. A bichrome variant of Frances Polychrome became known as Navajo Painted.

The occurrence of pueblitos in association with traditional Navajo hogans was cited as further proof of the presence of Puebloan refugees amongst the Navajo (Hester 1962). Pueblito architecture consists of multiple rooms constructed of coursed stone masonry and flat roofs with log beams and adobe mud finish. In most respects, these structures appeared to be smaller versions of the massive masonry buildings used by Pueblo Indians. Hester (1962) determined that pueblitos were built and inhabited by Pueblo refugees. Moreover, the layout and size of the structures indicated maintenance of the Puebloan social organization in exile (Hester 1962).

Early Navajo Economy

Gobernador phase economy was described as a mixture of hunting, gathering, and farming supplemented by trading, raiding, and herding (Eddy 1966; Hester 1962). Farming was added to the subsistence strategy as the result of contact with Pueblo groups sometime prior to the Pueblo Revolt (Dittert et al. 1961; Eddy 1966). Herding as an economic pursuit was most evident in eighteenth-century Navajo sites. According to Hester, herding came to the Navajo from the Spanish via Pueblo intermediaries. European trade goods were considered relatively scarce at Gobernador phase sites and the mechanism of trade was thought to be Pueblo exchange of exotic European goods for Navajo products. An exception to this was quantities of goods distributed by Franciscan missionaries to promote conversion to Christianity (Hodge et al. 1945), but the Navajo apparently viewed this as an economic transaction that had little effect on their beliefs (Hester 1962).

Gobernador phase was dated from shortly after the Spanish reconquest, A.D. 1698, to the abandonment of Dinétah by A.D. 1775 (Dittert et al. 1961). Dittert et al. (1961) limited the spatial distribution of Gobernador phase to the Navajo Reservoir District, but Hester (1962) viewed the phase as more widespread, encompassing five regions: the upper San Juan, Gobernador, Largo, Big Bead Mesa, and Chaco. He suggested that this distribution was the result of generally south and westward expansion of Navajo groups beginning in the eighteenth century. The following Cabezon phase is characterized by continued expansion to the west and a greater dependence on a herding economy (Hester 1962).

Discussion

Summarizing the contributions of the Navajo Reservoir project, it is apparent that Dinetah phase was an unsupported proposition, but Gobernador phase was conceptually and materially well defined. The uncertainty of Dinetah phase was conceptual, material, and temporal as shown by changing treatment of the phase with each succeeding publication of the Navajo Reservoir project. As the project progressed, additional information, or perhaps lack of information, may have contributed to the elusiveness of the phase definition. Conceptually, Dinetah phase changed from a pure Athabascan manifestation to a period of initial contact and Navajo acculturation to the indigenous Southwestern cultures. Sparse evidence for the phase did not affect its validity for Dittert et al. (1961) and Hester (1962), but Eddy (1966) found the evidence for the Dinetah phase concept insufficient for Navajo Reservoir District chronology.

First, Eddy's (1966) rejection of Dinetah phase had implications for the Plains migration hypothesis. Athabascan entry must have been no earlier than the seventeenth century, because a Navajo occupation prior to the Gobernador phase could not be documented. Second, Navajo acquisition and acculturation to Pueblo culture, as was evident by Gobernador phase, must have been completed in a very short period of time. Consequently, such rapid culture change was argued to be the result of Athabascan contact with Rio Grande pueblos during a westward migration from the Plains.

In contrast, the concept of the Gobernador phase in Navajo chronology was strengthened by the results of the Navajo Reservoir project. The phase was characterized as a period of intensive acculturation caused by interaction with Pueblos and Spaniards.

The legacy of the Navajo Reservoir project was a more formalized archaeological culture history of early Navajo development. Historical accounts of the period were well documented by Hester (1962), but had little bearing on the development of the phase system except for one critically important time frame—the Pueblo Revolt and subsequent Spanish reconquest. The coincidence of the Spanish reconquest and perception of a dramatic change in Navajo material culture were convincing arguments to begin Gobernador phase in the A.D. 1690s. Kidder's original proposition that Pueblo refugees were responsible for the construction of Pueblitos was colloquially known as the Refugee period (Eddy 1966) by the mid-1960s.

The refugee hypothesis and concept of late Athabascan entry lacked one piece of evidence to gain widespread support. What was needed was physical evidence of a Navajo presence in the intervening area between the Plains and upper San Juan. It was reasoned that this would document the westward movement of Athabascan groups that would become known as Navajo. It would also explain the adoption of agricultural technologies and other Puebloan traits, since the Navajo would have to pass through Pueblo territory (Hester 1962). The timing of such a migration was critical because evidence for Navajos in the north-central mountains of New Mexico should be no earlier than the seventeenth century, if they were derived from the Plains Athabascans.

Curtis Schaafsma, a former member of the Navajo Reservoir project team, conducted extensive survey and excavation in the proposed Abiquiu Reservoir located some 80 km southeast of Dinétah in the Chama valley (Schaafsma 1979). In this area were a number of sites with morphological characteristics that Schaafsma recognized as similar to Navajo sites in the Gobernador. Moreover, the sites dated from the seventeenth and eighteenth centuries. Schaafsma (1979) called this material Piedra Lumbre phase and argued that the spatial, temporal, and morphological context of the material bridged the gap between the Plains and Dinétah. Piedra Lumbre phase materials became accepted as the oldest evidence of Navajo occupation in the Southwest. It appeared that the refugee hypothesis was supported and by the end of 1970s, the question of Navajo origins had been resolved.

Historic, Ethnohistoric, and Ethnographic Research

Spanish documents dating from the seventeenth century forward have been valuable resources for descriptions of Navajo culture. The memorials of Fray Alonso de Benavides have been of particular interest because these were prepared in the A.D. 1630s and document attempts to convert unsettled tribes like Navajos and Apaches. Hodge et al. (1945) presented Benavides's A.D.1634 Memorial, which describes largely unsuccessful attempts to convert Navajo groups. The process of conversion is interesting, because it usually involves presentation of gifts to the Navajo in trade for accepting the Catholic faith. According to the memorial, the Navajos viewed the significance of gift exchange differently from the friars in that conversion was effectively the purpose of trade, but not a permanent change in belief or lifestyle.

Primary Spanish Documents

Hodge et al. (1945) also published an inventory of supplies delivered to Benavides and 12 friars for the A.D.

1624 to A.D. 1626 period. In the inventory of goods were a number of items likely included for trade with the Indians, such as needles, axes, glass beads, macaw feathers, little bells, iron hoes, etc. Though not expressly listed as trade goods, the quantities of these items appear to exceed the needs of the monks. Moreover, most of these kinds of historic artifacts have been found in early Navajo sites (see Carlson 1965; Hester 1962).

In 1940, W. W. Hill published a translation of the Rabal manuscript which consisted of testimony by Spaniards about contacts with Navajos in the period from A.D. 1706 to A.D. 1743 (Hill 1940). The importance of the document with respect to Navajo history cannot be overestimated because of the consistency in the testimony presented by multiple eyewitnesses. Navajos were said to be living in rancherias, which judging from most descriptions resembled pueblitos. The Navajo economy consisted of a mixture of hunting, gathering, farming, herding, and trade. Handicrafts included weaving, basketry, and hide tanning, the products of which were used for trade purposes (Hill 1940). Navajo relations with Northern New Spain (both Spaniards and Pueblos under Spanish control) were in a state of constant flux according to the witnesses. Generally, however, Spanish campaigns against the Navajo were more frequent in the first part of the eighteenth century. Raiding and trading, however, seem to have been relatively constant throughout the first half of the century.

Navajo Culture History

Reeve (1957, 1958, 1959, 1960) took the historical theme of Navajo and Spanish relations a bit farther by developing a chronology of Navajo history based on sociopolitical relations between the two groups. Reeve broke early Navajo history from A.D. 1680 to A.D. 1846 into four periods: Navaho-Spanish Wars (A.D. 1680-1720), Navaho-Spanish Peace (A.D. 1720s-1770s), Navaho-Spanish Diplomacy (A.D. 1770-1790), and Navaho Foreign Affairs (A.D. 1795-1846). Reeve's consideration of Navajo history in this series of articles in the *New Mexico Historical Review* was always from the perspective of Spanish chronicles. In Navaho-Spanish Wars, Reeve (1958) characterized the Navajos as widely dispersed, relatively independent groups. The independence of the groups was important, because at any given moment in time some Navajo groups were engaged in raiding Pueblo or Spanish settlements; others were engaged in peaceful interaction like trading, social, or political activities; and others were disengaged from foreign relations altogether. For example, the Navajos of Cebolleta (near Mount Taylor) were characterized as largely peaceful, but people from the province of the Navajos, otherwise known as Dinetah, were characterized as more warlike. The raiding and warring came to an abrupt halt circa A.D. 1716, and Reeve attributed this to Navajo overextension of their warlike behavior. Navajos were pressed by Spanish punitive raids and Ute and Comanche raids at this time. Peace with the Spaniards freed up resources to deal with the Utes and Comanches. At the same time the Spaniards viewed the Navajos as a buffer between warring Utes and the settlements of Northern New Spain, consequently the peace was beneficial for both parties.

Historical research into early Navajo culture continued in the late 1970s and early 1980s in conjunction with a number of large archaeological projects in the San Juan Basin. Garrick and Roberta Bailey reworked the Navajo cultural sequence from a decidedly economic perspective (Bailey and Bailey 1980, 1982, 1986). They reviewed historical and archaeological literature about the early Navajo and described four periods that reflect significant economic and cultural change. The first period was the Early Agricultural period, which corresponds temporally with Hester's (1962) Dinetah phase. Conceptually, this period began with Athabascan entry (ca. A.D. 1500) and ended with Spanish reconquest (A.D. 1696). Controversy surrounds the estimated beginning date for the period because of problems with dates and establishing cultural identity from material remains. Few dates from the Early Agricultural period were known, but the larger issue of ethnicity was more difficult to address. Bailey and Bailey relied primarily on Spanish documents to distinguish Navajos as a cultural group from other southern Athabascans known to inhabit the Southwest. Following Hodge et al. (1945), Hewett (1906), and Hester (1962) the first mention of Navajos as a separate group was attributed to Fray Zarate Salmerón, who penned "Apache de Nabajú" in A.D. 1626. The use of the word Apache suggested Athabascan speakers, but Nabajú is thought to be derived from a Tewa place name meaning a large cultivated field or farms (Hewett 1906; Hodge et al. 1945). Consequently, Nabajú may refer to a place rather than to a cultural group of farming Athabascan speakers. The evidence for Apache de Nabajú in reference to a specific group is strengthened, however, by subsequent Spanish documents including the Benavides Memorial of A.D. 1634 where Apache de Nabajú and similar iterations more clearly refer to a cultural group (for a much expanded discussion of the synonymy of the word "Navajo" and related terminology, see Brugge [1983]).

Finding references to Navajos in Spanish documents prior to A.D. 1626 is difficult. As early as A.D. 1583, Spanish chronicles applied the names Querechos and Apaches to apparent Athabascan-speaking groups. Querechos may have been more commonly applied to farming groups living in the Mount Taylor region, which has caused some researchers to consider them as early Navajo (Amsden 1932; Bailey and Bailey 1982; Hester 1962; also see McNitt 1972).

The significance of such historical accounting of Athabascans is twofold. First, Athabascans, some of whom may be presumed to be Navajos, were documented in northwest New Mexico near the time of sixteenth-century European contact. Secondly, some Athabascan groups were farming at this time. Consequently, the term Early Agricultural period is used by Bailey and Bailey (1982) to describe the Navajo economy prior to Spanish reconquest. Early Agricultural period is synonymous in most respects with Dinetah phase as described by Hester (1962).

Following the Early Agricultural period, Bailey and Bailey (1982) define the Developmental Herding period (A.D. 1696-1800) which is similar to Gobernador phase. Following Hester (1962), the Baileys argue that Navajo culture change was accelerated as the result of influence from Pueblo refugees. During this period, Navajos absorbed certain aspects of Pueblo technology, ceremony, and social structure. By developing the concept of the Early Agricultural period and combining it with the Pueblo refugee hypothesis, the Baileys struck a compromise by suggesting an early Athabascan entry, but late acculturation of Navajo groups. Moreover, they viewed Navajos as "biological and cultural hybrids, neither Athabascan nor Puebloan, but the product of a fusion of both" (Bailey and Bailey 1986:15). Consequently, the distinctiveness of Navajo culture is due to a unique blend of Athabascan and Puebloan stock. This view contrasts with archaeological interpretations of a short-term refugee period where Navajos become acculturated, but Pueblos returned to their former homes.

Perhaps the most important aspect of the Developmental Herding period was the introduction of animal husbandry to Navajo groups. Though herding is a European import to the New World, acquisition of the technologies by Navajos was via interaction with Pueblos according to Bailey and Bailey (1986). Moreover, as a major contribution to the economy, herding did not gain a foothold in Navajo culture until the nineteenth century. To support this, Bailey and Bailey regarded repeated reference to Navajo animal husbandry in eighteenth-century Spanish chronicles as exaggerated.

Bailey and Bailey (1982) described two more periods of Navajo cultural development, the Herding-Raiding period (A.D. 1800-1863) and the Bosque Redondo period (A.D. 1863-1868). These periods have little bearing on the Morris Site 1 project, but are worth mentioning because they describe Navajo culture change after the abandonment of Dinétah. The Herding-Raiding period describes the florescence of a herding economy among the Navajo, but raiding or skirmish warfare characterizes relations with Spanish, Mexican, and finally American governments. The United States acquired the New Mexico territories in the Mexican War in A.D. 1846, however, by the A.D. 18[illegible] Navajo raiding and unrest were deemed too great to [illegible] unimpeded. The U.S. government implemented a plan [illegible] round up and incarcerate the Navajo tribe at Bosq[illegible] Redondo near Fort Sumner in eastern New Mexico.

The Bailey's main contribution to the Navaj[illegible] protohistoric period was the linkage of Navajo cultur[illegible] change with changes in the economic system. This, in pa[illegible] explains the rapid development of Navajo culture up to A.D[illegible] 1863. The catalyst for economic change appears to b[illegible] interaction with neighboring indigenous and Europea[illegible] groups.

Navajo Land Claims Research

The Navajo Land Claims study of the 1950s and 1960s was probably the largest study of Navajo history ever undertaken (Towner and Dean 1996). The project was undertaken to gather data about the temporal and spatial distribution of Navajo sites in the Southwest. Much of the land claims data are considered confidential due to the legal proceedings for which it was intended. But some of information has been analyzed and has been made available from a variety of sources. David M. Brugge (1964, 1981a, 1985) has published, most prolifically, on the Navajo Land Claims information.

Brugge (1964) considered the early Navajo economy to be subsistence oriented, employing multiple extractive technologies on the landscape. Noting changes in the Navajo economy through time, he developed a general chronology. Prior to the Athabascan entry a traditional hunting and gathering system, similar to the northern Athabascans, was practiced by the Navajo (Brugge 1964). Navajo acquisition of agriculture was a factor of the entry and the result of subsequent interaction between Navajos and Pueblos. Brugge (1964) declined to speculate on the time of entry; however, it was clear from the Salmerón and Benavides chronicles that farming was in place by the early seventeenth century. Agriculture developed into a major economic activity and may have been the predominant activity for many Navajos in the first half of the eighteenth century. Agriculture and sedentism were mutually compatible and the Navajo settlements took on a more permanent appearance with the construction of stone masonry pueblitos between circa A.D. 1700 and A.D. 1750. Environmental and political conditions deteriorated toward the end of the agricultural period as drought and Ute raiding pressure contributed to forcing the Navajos to leave Dinétah. In the A.D. 1780s, Governor de Anza brokered a peace agreement binding the Navajos to adopt a more Pueblo-like government and economy (John 1975). This experiment was a failure and Navajos turned to a more mobile lifestyle organized around herding (Brugge 1964).

The return to mobility was catalyzed by increasing numbers of Navajos taking up herding as an economic endeavor. The period between A.D. 1750 and A.D. 1863 was characterized by a "re-emphasis of old Athabascan traditions, with the Blessingway Ceremony" (Brugge 1964:18). The advent of the Blessingway was significant because cultural taboos were placed on objects associated with Pueblo culture, such as stone houses and decorated pottery (Brugge 1981a). This aversion to things associated with Pueblo culture apparently coincided with a return to mobility supported not by hunting and gathering, but by pastoralism (Brugge 1964). Following Reeve (1959, 1960), Brugge indicates that Navajo affairs in the nineteenth century were much affected by destabilized political relationships and warfare with the Spanish, Mexican, and United States governments.

In 1963, Brugge published a seminal piece, describing in some detail the plain and decorated pottery produced by Navajos. The chronology of Navajo pottery production was formulated in this volume. For this discussion, it is important to note that Dinetah Gray and Gobernador Polychrome were predominant in the ceramic assemblages dating prior to A.D. 1800. Dinetah Gray was the first pottery manufactured by Navajos and had an estimated period of production between circa A.D. 1500 and A.D. 1800. Gobernador Polychrome appeared quite suddenly and without obvious antecedent about the time of the Spanish reconquest (Brugge 1981a). Its technology and production were attributed to the Pueblo refugees, largely due to the lack of evidence for production lineage in Navajo material culture.

While the descriptions of Navajo pottery were a significant contribution, Brugge (1981a) went further by presenting a model that described cultural factors contributing to the abandonment of Dinétah by Navajos in the late eighteenth century. He described the emergence of the Blessingway as a nativistic movement and the cause for Navajo culture change in the mid- to late eighteenth century. Teachings of the Blessingway remonstrate against nontraditional culture, particularly things associated with Pueblos. Navajo sites of this period, like those on Big Bead Mesa, show a marked decrease in the construction of masonry residential structures and a decrease in the frequency of decorated pottery. Production of Gobernador Polychrome was halted during this period. It is interesting to note that the nativistic tendencies of the Blessingway have little effect on European influences in Navajo culture. The Navajo economy, for instance, does not revert to a hunting and gathering strategy, but mobility, a source of protection from enemies, was attained by pastoralism.

In the 1970s, under the auspices of the National Park Service's Office of Chaco Research, Brugge took on the task of developing the history of Navajo occupation in Chaco Canyon. Archaeological evidence indicated more or less continuous use of the canyon by Navajos from the early eighteenth century forward. Using archaeological excavation and survey data in conjunction with oral history and ethnohistory, Brugge (1986) constructed a culture history of the Chaco Navajo. From an archaeological perspective the most important result of the Chaco project was the delineation of Navajo site structure, which was sometimes validated and sometimes not, by ethnohistorical research. Stemming from these delineations of site structure was the first workable Navajo site typology since that developed by Keur (1941) some 40 years earlier.

Brugge's contributions to Navajo archaeology and ethnohistory are considerably more extensive than can be cited here, however, his most important work includes the definition of Navajo site structure, synthetic reconstruction of the Navajo economy through time, and perhaps most importantly, a consideration of cultural factors as causal for change.

Navajo Origins

In the 1980s, archaeologists revisited the issue of Navajo origins. By this time the prevailing hypothesis was for a late arrival, post-A.D. 1600s, via the western plains where Athabascans were fairly well documented, historically (Eddy 1966; Hester 1962; Schaafsma 1979, 1981). The alternative was an early entry, pre-A.D. 1500, that was coupled with migration routes via the western slope and intermontane region of the Rocky Mountains. This explanation was favored by ethnohistorians and a few archaeologists (see Riley 1954). The rebirth of interest in the origin issue may be attributed in part to increased archaeological work in Dinétah, the result of a cultural resource management response to energy development during the 1970s. The academic response to the new information provided by this work was fairly rapid.

In 1981, the question of Athabascan arrival in the Southwest was broadly treated by a consideration of the protohistoric period in a volume of compiled papers edited by Wilcox and Masse (1981). Wilcox (1981) approached the question of Athabascan arrival, directly, in a paper that thoroughly reviewed archaeological and ethnohistoric work on the subject. He suggested that the time of Athabascan arrival and the route of such migration were best approached as separate issues. Wilcox (1981) rejected Hall's (1944) tree-ring dates in the A.D. 1500s on the grounds that old wood was used, and cites lack of evidence for Navajo occupation west of the Continental Divide prior to A.D. 1620. The underlying assumption was that Navajos had to cross the divide from east to west; therefore, linkage was made to late arrival via the Plains.

In a review of Wilcox (1981), Schaafsma (1981) supported the Plains origin of the Navajo groups, but argued for an even later arrival of the Navajo, at the time of the Spanish reconquest. In this scenario, the Navajo infiltrate former Tewa territory in the upper Rio Grande and Chama valleys. As a consequence of this contact, the Navajo develop a close relationship with the Tewa and other Pueblo groups. Thus combined, the Navajo and Pueblo were involved in a failed attempt to repel the Spanish reconquest in the A.D. 1690s. A result of this defeat was that group of mixed Navajo and Pueblo peoples sought refuge in the Dinétah area of the upper San Juan.

In a second review of Wilcox's (1981) paper, Brugge (1981b) argued that Spanish chronicles indicate a significantly large and widespread Navajo population by the late sixteenth century. This suggested to Brugge (1981b) that the Navajo were not newcomers and, accounting for population growth, suggested arrival by A.D. 1400. In his investigation of Athabascan migration, Haskell (1987) equated early Navajos with the Cocoyes, a group chronicled by Oñate as occupying the mountains north of Jemez (Hammond and Rey 1953:345). According to Hammond and Rey (1953), the Cocoyes were described in A.D. 1599 by Fray Alonso de Lugo as farmers who lived in jacales near the source of the Rio Grande.

Haskell believed the Cocoyes in whole or part were described as Apachu de Navajo in A.D. 1626. Regarding the route of migration, Haskell pointed to differences in Navajo and Plains Apachean material culture as critical for evaluating mountain or Plains migration routes. Essentially he argued that the occurrence of pottery and horticulture, and lack of tepee and travois in Navajo material culture suggest adaptation to foothills ecology. If Navajos migrated via the Plains, then all vestiges of the Plains adaptation must have been shed by the A.D. 1500s. Haskell found this unlikely and suggested that the preconditioning of a mountain migration route best explained Navajo economic and technological adaptations to the Southwest.

One of the first methods employed to estimate the time of Athabascan entry was by reference to the songs and stories of Navajo oral tradition (see Matthews 1994). Matthews estimated the lifetimes of prominent characters in the stories and counted backward. By this method he concluded that Navajos were in the Southwest by the fifteenth century or earlier. In the 1980s, the approaches to the problem were slightly different—these used a comparison of oral tradition with archaeological remains to establish apparent morphological associations. The age of the archaeological remains was then used to estimate Athabascan entry, based on the apparent association. Benally (1982) and Roessel (1983) used this combination of oral history and archaeology to first establish some antiquity to the Navajo entry and continue the comparison with historical information from the seventeenth century forward. The arguments are essentially alike, but Benally's (1982) presentation is particularly detailed. From a single Athabascan tradition, Navajos and Apaches parted ways in the northern plains, probably before the twelfth century. In southern Idaho and northern Wyoming, the Navajo moved westward, crossing the mountains, and traveled southward via an intermountain route. Navajo oral tradition and morphological similarity in pottery and house floor plans were interpreted to demonstrate association with Largo-Gallina phases of the eleventh and twelfth centuries (Benally 1982; Roessel 1983). This argument essentially replicates Hall's (1944) conclusions.

Navajo oral tradition may be of even greater utility for developing models that can be tested by archaeological information (Gill 1983; Roessel 1983). Hunting, gathering, and farming are frequently referenced in stories relating to Navajo origins, however, sheepherding, which has been a major component of the Navajo economy for past two centuries, is virtually absent from the origin stories. This indicates that portions of the Navajo oral tradition predate the development of a herding economy. It not only suggests some antiquity for the oral tradition, but also suggests that farming significantly predates herding in a relative dating approach. Moreover, archaeological discoveries in the Dinétah area indicate a significant farming component of Navajo economy. These associations suggest that portions of Navajo oral tradition developed during or as a result of the Dinetah and Gobernador phase occupations of the upper San Juan.

Using substantial excavation data from the La Plata valley, Brown and Hancock (1992) provided a clear description of Dinetah phase. Subsistence in Dinetah phase was characterized by a mixture of hunting, gathering, and horticulture. Hunting and gathering were the predominant food procurement strategies as evidenced by lithic technology, faunal remains, and floral remains. Wild flora were consistently found in early Navajo sites, and a diversity of species was often represented in individual site assemblages. Evidence of cultigens was very sparse, limited to corn pollen at 6 of 11 sites and corn plant parts from only one provenience. The subsistence data suggested seasonality of occupation. Ten of 11 sites contained floral resources indicating spring-summer residence. Only one site had evidence of fall-winter use and may have been a year-round residence. Architecture of Dinetah phase sites consisted of forked-stick hogans and brush structures. Hearths and bins are common in the hogans, and extramural trash areas were located nearby. Feature assemblages associated with brush structures were variable, but usually

consisted of a combination of hearths, pit features, and middens emplaced within or outside of structure walls.

Dinetah phase was not necessarily associated with the Athabascan entry. Dinetah phase is a "cultural and chronological unit with specific architectural and artifactual traits" (Brown and Hancock 1992:89). Tentative dates of A.D. 1500 to A.D. 1700 were provided for Dinetah phase after evaluation of radiocarbon, tree-ring, thermoluminescence, and archaeomagnetic dates and diagnostic material culture. Radiocarbon results in particular were thought to overestimate site age by 150 years or more. Despite the suspected error, the results indicate pre-Pueblo Revolt Navajo occupations (Brown and Hancock 1992; Hogan 1991).

The question of the time and place of Athabascan entry is not likely to be resolved in the near future. This is indicated by the range of perspectives presented at a Society for American Archaeology symposium that was organized in 1993 to address the issue of Navajo origins (Towner and Dean 1996). In the published version of the symposium papers, Schaafsma (1996) reiterates his hypothesis for a late arrival of Navajo groups and questions the assignment of Navajo cultural affinity to the earliest dated sites in the San Juan region. Schaafsma (1996) suggests that cultural-temporal placement of these materials fits with a Ute cultural sequence. In the same volume, Brown (1996) interprets the same data as Navajo material and suggests that A.D. 1500 is not an unreasonable time for Navajo entry. Because of this, Towner and Dean (1996) indicate that the problem of Navajo entry remains controversial due to a lack of confidence in sixteenth-century dates derived by radiocarbon and thermoluminescence methods.

One year after publication of the symposium papers, an early Navajo site, LA 55979, in the upper San Juan, was tree-ring dated to A.D. 1541 with the highest of confidence (Hancock 1997). The presumed Navajo occupation of the site evidences multiple hogans, storage pits, locally produced gray ware pottery (Dinetah Gray), trade ware ceramics (Jemez Black-on-white), and cultigens including the physical remains of corn and beans (Dice 1997; Dykeman 2000; Hancock 1997). The materials have not been fully evaluated for the significance to the entrada problem, but these probably support an early entry. Moreover, the elements of farming and decorated trade ware suggest that the relations between Navajos and Pueblos were well developed in the mid-sixteenth century.

Navajo Studies 1980-Present

Archaeological interest in other components of the early Navajo occupation were taken up by the cultural resource management projects of the 1980s and 1990s. Marshall (1995) evaluated in some detail the chronology and economy of the early Navajo occupation. He concluded that the early Navajo chronology should be divided into three phases based largely on change in ceramic and architectural components of the sites. Marshall's phase sequence includes Dinetah phase (A.D. 1450 or A.D. 1500-1625), Early Gobernador phase (A.D. 1625-1690), and Late Gobernador phase (A.D. 1690-1760). The introduction of Gobernador yellow ware distinguishes Early Gobernador phase from Dinetah phase. Late Gobernador phase is distinguished by Gobernador Polychrome and a wide variety of Puebloan trade ware. The construction of pueblitos was attributed to the development of an architecture style unique to Late Gobernador phase.

Marshall (1995) accepts Brugge's (1964) characterization of the early Navajo economy as one of diverse strategies and supports this with new evidence for herding and trading from pueblito sites. These aspects of the economy were argued to be in the initial stages of development in the latter half of the seventeenth century. Both herding and trading became increasingly important through the eighteenth century.

Hogan (1991) examined the nature of the Pueblo Revolt and its consequences for Navajo culture. Based on a thorough recapitulation of archaeological and historical evidence, he evaluates the widely held assumption that thousands of Pueblo refugees poured into Dinétah as a consequence of Spanish reconquest. Central to his argument was an analysis of Pueblo population before, during, and after the Pueblo Revolt/Spanish reconquest. Population declined among Pueblos at this time and was attributable to the conflict and its immediate consequences such as a disruption of the subsistence economy. Moreover, the decline probably started well before the revolt, due to drought in the mid-seventeenth century. Hogan (1991) sees population redistribution as the result of the reconquest as more of a scattering as opposed to massive resettlement in Dinétah. The disposition of Pueblo people varied considerably; some sought refuge among other Pueblos or Navajos, others were held captive and forcibly relocated, and yet others moved villages to more defensible locations. The majority likely stayed put in surviving villages along the Rio Grande. Hogan attempts to account for all the Pueblo

population, however distributed, and concludes that those seeking refuge in Dinétah were likely fairly few in number and should be counted in the low hundreds rather than thousands. This result has implications for the refugee hypothesis, because fewer refugees in Dinétah might be argued to have had a lesser impact on Navajo culture than previously thought (Hogan 1991).

Fruitland Data Recovery

In response to extensive development of energy resources in the upper San Juan area, the Bureau of Land Management implemented a massive archaeological data recovery program called the Fruitland project. Reevaluation of the refugee hypothesis and other themes dominate the Navajo portion of the Fruitland research design prepared by Hogan et al. (1991). Based in part on perceived problems with the refugee hypothesis, this research design advocates a reevaluation of the archaeological phase sequence used for the early Navajo occupation. In addition, it provides a framework for an improved characterization of Navajo culture. Some of the results of Fruitland data recovery were available for consideration during the Morris Site 1 project and these are briefly described here to develop a context for the project based on the most current information available.

Though few final reports related to the Fruitland project have been published, much of the information relating to the early Navajo has been disseminated as preliminary reports or at professional meetings like the Fruitland Conference or the Society for American Archaeology meetings. A brief review of current Fruitland research is appropriate.

Excavations conducted for the Fruitland project have produced the earliest tree-ring dates for a Navajo site. As mentioned previously, Hancock (1997) reported a cluster of five tree-ring cutting dates from LA 55979 that indicate the construction of a hogan and related features in A.D. 1541. Dykeman (2000) found considerable support for the early dates based on correspondence between tree-ring, thermoluminescence, and radiocarbon dates from this site. The significance of these results was that Hall's (1944) early dates for a hogan site now appear supported. Combined, these sites, Hall's sites, and LA 55979 indicate a fairly early date for the development of Navajo culture in the Southwest.

Torres (1999) revisited the issue of Athabascan migration and suggested that it was the product of an early southward migration and contact with Southwestern culture. The Athabascans, including the Navajo, were cut off from their northern roots by an eastward expansion of Numic peoples and a westward expansion of Algonquin speakers. The time of Southwest arrival was judged by Torres to be in the mid-A.D. 1400s, based in part upon the appearance of Athabascan hunting technology at dated Jemez pueblo sites.

In a broad treatment of the temporal and spatial distribution, Langenfeld (1999) demonstrated that Gobernador Polychrome pottery was introduced in Dinétah prior to the Pueblo Revolt. Well-dated sites with Gobernador Polychrome provided the basis for this conclusion. These results support speculation by L. Reed and P. Reed (1992), P. Reed and L. Reed (1996), and Marshall (1995) that this ceramic type had an earlier origin and longer period of production, and was the product of long-term contact and establishment in the Southwest. Significantly, Gobernador Polychrome was likely not associated with the arrival of Puebloan refugees during the Spanish reconquest.

Sesler et al. (1999) used suites of tree-ring dates from spatially clustered sites to address issues of mid-level Navajo social organization. Tree-ring dating provided reliability essential to establishing literal contemporaneity between sites. The combination of proxemic spatial association and contemporaneity suggests mid-level organization composed of multiple households.

Discussion

More than 100 years of investigation into early Navajo culture has resulted in continuing dialogue on two major themes: 1) the problem of Navajo origins and identity, and 2) the causes of continuity and change in Navajo culture. The debate on these issues should be regarded as a positive sign of a healthy academic discipline, yet, some consensus has developed around a few broad issues. Most researchers regard Navajo as members of the Athabascan language family, but mixed culturally and genetically. Athabascan groups that became the Navajo experienced rather profound culture change in the Southwest. Such change is related to interaction among Navajos, Pueblos, and Europeans, but scholars continue to debate the details of the mechanisms that caused these changes.

The question of Athabascan arrival and Navajo lineage has been addressed by two competing explanatory paradigms that have gained and lost support several times over the past 100 years. The older of these two paradigms, suggested by Matthews in the late A.D. 1800s, argues for considerable time depth to Navajo culture in the Southwest. In recent times, this concept has become linked with an intermontane migration route for Athabascans. This linkage was largely in response to the competing theory of a Plains route for the Athabascan migration. The Plains route is linked to much later, seventeenth-century arrival of the Navajo because the appearance of Athabascans on the Plains occurred in protohistoric times (see D. Gunnerson 1956; J.

Gunnerson 1969). An Athabascan presence on the Plains must predate that in the Southwest because the Plains are intermediary between northern Athabascans and southern Athabascans. Wilcox (1981) suggests unlinking the time of arrival with the route of migration, but this may produce seemingly untenable circumstances, such as Navajo and Ute co-occupation of the intermountain region or early Athabascans migrating through the Plains before A.D. 1600 and leaving no trace. Consequently, in contrast to Wilcox, it is argued here that the linkage of timing and route is essential for consistency of the individual paradigms.

For much of the twentieth century, the concept of early Athabascan entry was largely supported by ethnohistorians and the concept of late arrival supported by archaeologists. This appears to have much to do with the approaches inherent to the disciplines. The ethnohistoric approach evaluates oral history and history to arrive at tenable paradigms. Archaeology develops theory about culture by observing and interpreting patterns in material culture. No pattern of early dates for Navajo sites was established until the 1990s, when an increase in the frequency of pre-revolt dates for early Navajo sites required explanation. Consequently, until recently, archaeologists tended to be skeptical of arguments for an early Athabascan entry. The current consensus of Navajo research seems to accept the intermountain paradigm for early arrival and long period of development of southern Athabascans in the Southwest (see Schaafsma 1996 for an alternative view).

Continuity and change in Navajo culture may be described as having two main proponents. The traditional view has been that Navajo culture is the product of acculturation to the more advanced and well-adapted Pueblo societies in the Southwest. (Bailey and Bailey 1986; Eddy 1966; Hester 1962). Ethnohistoric and archaeological research into the Refugee period seem to bear this out. Pueblo clans and ritual materials were apparently absorbed by Navajo culture during this period. The production of decorated pottery and construction of pueblo-style homes, pueblitos, occur during and after the revolt and Spanish reconquest. It seemed to most researchers that there was direct correspondence between the arrival of Pueblo refugees and the changes in Navajo culture. The situation appeared to be a clear-cut case of acculturation.

An elegant argument that casts doubt on the acculturation hypothesis was presented by Benally (1982), who suggested that if Pueblo refugees were forced to live among the Navajo in Dinétah, they must have conformed to Navajo standards of behavior. In short, the Pueblos must become acculturated to Navajo lifeways in order to stay in Dinétah. In this scenario, the Navajo acceptance of certain Puebloan characteristics is a matter of Navajo-initiated culture change as the result of exposure to Puebloan customs.

There are other strong indications that Navajo culture change better explains developments in Dinétah. First, the site (LA 55979) that dated to A.D. 1541 contained evidence of a well-developed agricultural technology and trade relations with Pueblo groups. The evidence for agriculture included the physical remains of corn and beans, the storage technology to preserve these goods, and the ground stone technology to prepare hard-seeded cultigens. Puebloan trade items at this site include Jemez obsidian and Jemez Black-on-white pottery. It is worth recalling that the earliest evidence of Athabascan technology in a Puebloan context was found in pueblos of Jemez association. These observations suggest that the Navajo had nation-to-nation relations with the Pueblos for 150 to 250 years prior to the Pueblo Revolt. This seems ample time for Navajos and Pueblos to adjust to one another through cultural borrowing.

A second factor of Navajo culture change is the production of decorated pottery prior to the Refugee period. Gobernador or Frances polychromes may have been produced as early as A.D. 1640. These ceramic types may have been a result of Navajo initiative or possibly originated with a Puebloan apostate living among the Navajo—a product of the above-mentioned long-term relationship. Significantly, however, the appearance of polychromes cannot be attributed, exclusively, to events surrounding the Pueblo Revolt and Spanish reconquest.

Third, sixteenth-century Navajo sites evidence trade items and architectural details that appear to be of European origin. Hallways and corner fireplaces with chimneys are features of pueblitos that can be attributed to European, and not Puebloan influence. Animal husbandry in Dinétah had begun to develop in the middle or end of the seventeenth century. Artifact assemblages from Navajo sites contain objects of European manufacture such as glass beads, various metal items, porcelain, and cloth. These kinds of trade items are never abundant at Navajo sites, but their occurrence is sufficient indication of trade relations with Northern New Spain. The traditional concept for Navajo trade relations with Northern New Spain was that Pueblos acted as intermediaries in the exchange of European goods (Hodge 1895). This may not explain all circumstances of trade, however, since it is doubtful that Pueblos ever had access to a large surplus of Spanish goods (John 1975; Knaut 1995). Moreover, the list of supplies destined for the Franciscans contains many items; beads, rosaries, crucifixes, and metal axes; likely to be used for conversion of Apaches and Navajos (Hodge et al. 1945). Gifts presented by missionaries in exchange for conversion can be counted as direct trade between Navajo and Spaniards and chronicles

mention the Navajos, as a group, being particularly adept at communicating in Castilian. This suggests significant frequency of direct interaction between Navajo and Spanish such that not all trade was conducted through Pueblo intermediaries. Consequently, much of the cultural borrowing by Navajos in the seventeenth and eighteenth centuries can be attributed to Spanish sources rather than Puebloan. This implies further erosion of the explanatory power of the refugee hypothesis because Spanish cultural elements may have equaled or surpassed Puebloan elements in Navajo culture during the supposed acculturation process that followed the Spanish reconquest.

Fourth, and finally, until A.D. 1863 the Navajo are considered to be a politically autonomous group by Pueblos, Spanish, Mexican, and United States' governments. The year A.D. 1863 marks the defeat of the Navajo and subsequent political and social domination by the United States. However, prior to that time the autonomy of Navajo culture and tradition suggests that it was resistant to acculturation into another system. Brugge (1981a), in fact, considers a total failure the concerted Spanish effort to persuade Navajos to live in pueblos. This very nearly coincides with the advent of the Blessingway and a rededication to traditional Navajo cultural values. Brugge (1981a) probably overemphasizes the nativistic aspect of the Blessingway as a return to Athabascan tradition of mobility, because the Navajo did not return to a hunting and gathering economy with its associated cultural traditions. Instead, sheepherding is added to an already diverse economic arsenal. Blessingway taboos target some things that have been classed as Puebloan, but at base these taboos are directed at the icons of sedentary lifestyle, permanent stone architecture and decorated pottery (that might be considered valuable and fragile). Brugge (personal communication 2002) now prefers the term revitalization instead of nativistic and this seems compatible with the argument presented here. Consequently, Blessingway might be considered a body of doctrine calling for a return to a more mobile lifestyle conducive for sheepherding, but most other aspects of the culture, particularly the economy, bear little resemblance to traditional Athabascan hunting and gathering. The connection between traditional Athabascan and late eighteenth-century Navajo cultures is mobility, and on this point the characterization of a nativistic movement is quite persuasive. In this regard, the nativistic movement had a revolutionary, not a regressive, effect upon Navajo culture because it may have served to legitimize the adoption of sheepherding.

The events surrounding the Blessingway provide an example of the autonomy and maintenance of cultural identity that can be considered characteristic of Navajo culture. Tolerance for change was permissible under these conditions, consequently, the changes observable in early Navajo culture are more a matter of internal culture change than forced by an external acculturative process.

Early Navajo Chronology

The dual nature of both continuity and change in Navajo culture of the pre-Fort Sumner period facilitates the development of a chronology. As reviewed earlier, there are many existing chronologies available for the early Navajo occupation (Figure 9), and the scheme presented here relies on these for its fundamental structure. The purpose of building the chronology is to provide a temporal structure for the archaeological discussion of the Navajo occupation in the Morris Site 1 project area.

The chronology is constructed around the concept of Early Navajo period. The Early Navajo period refers to the Navajo occupation of the Southwest prior to the subjection of the tribe under United States rule in A.D. 1863. Essentially this is a time of relative cultural and political autonomy of the Navajo people.

The Early Navajo period corresponds roughly with the Navajo period as defined by Dittert et al. (1961) for the Navajo Reservoir District. Three cultural phases are indicated within the period, and are distinguished conceptually by culture change evident in the archaeological and ethnohistoric records. The phases carry the familiar names of Dinetah (A.D. 1450-1625), Gobernador (A.D. 1626-1775), and Cabezon (A.D. 1776-1863) that were first proposed by Dittert et al. (1961) and Hester (1962). The difference between the phases used here and those presented by Dittert is an adjustment of the chronology based on temporal ranges suggested recently by Hogan et al. (1991) and Marshall (1995). Conceptually, the phase system used here has similarities to Bailey and Bailey's (1986) periods that are based on apparent changes in the Navajo economy.

Dinetah Phase (ca. A.D. 1450-1625)

Conceptually, Dinetah phase represents a series of changes in early Navajo culture that likely occurred as the result of interaction with Pueblo groups in the Southwest. These changes occurred soon after the Athabascan entry, circa A.D. 1450. The exact date of Athabascan entry is not currently known, however, by A.D. 1541 the Navajo had a well-developed agricultural technology and as early as A.D. 1520 Athabascan hunting technology was known at Hopi, Unshagi (Jemez), and Pecos pueblos (Baldwin 1997; Torres 1999). Affording the Navajo some time to acquire and implement agricultural technology from the pueblos, the date of A.D. 1450 seems relatively consistent with the current archaeological data. Dinetah phase ends at approximately A.D. 1625, which

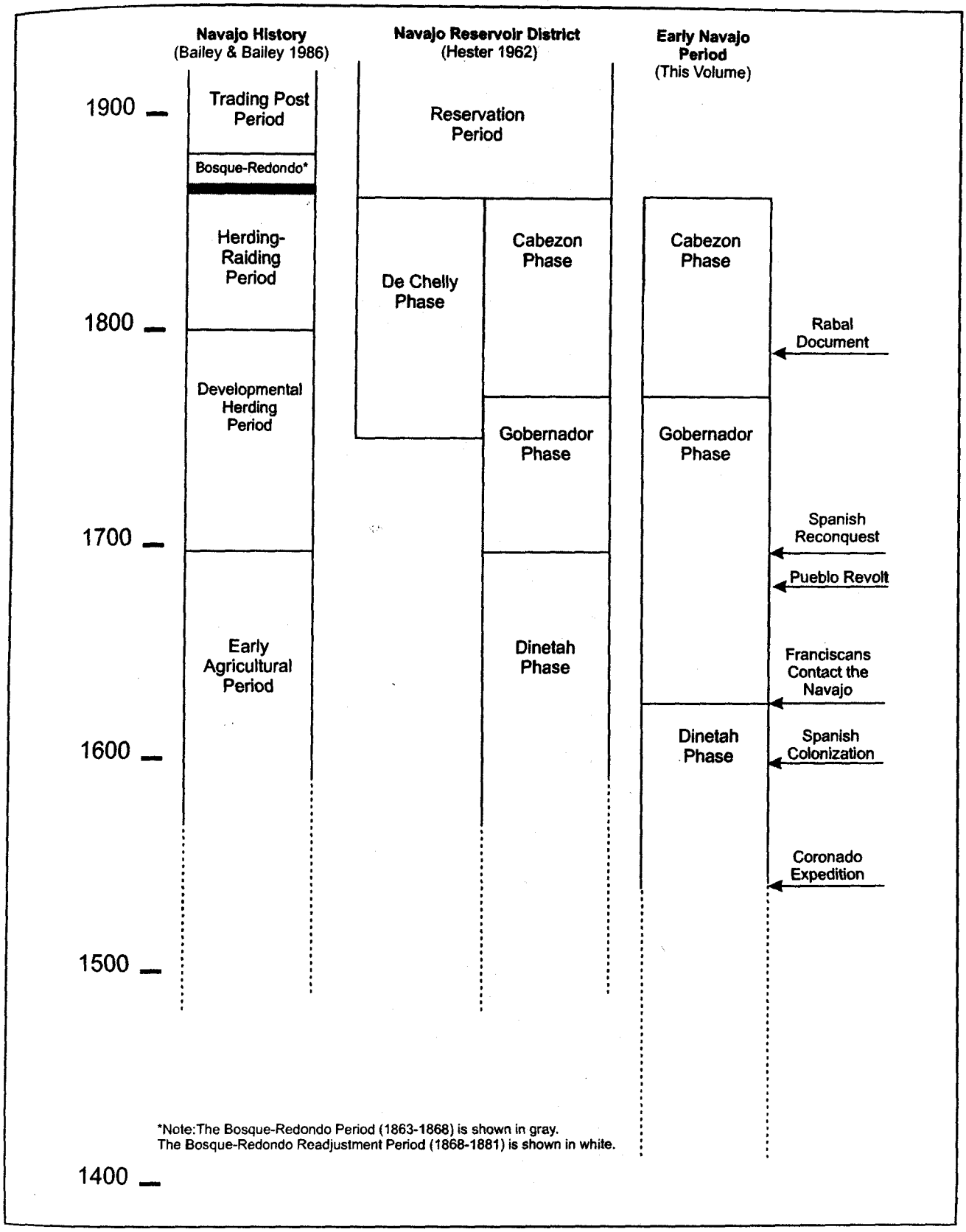

Figure 9. Comparison of Navajo chronologies.

corresponds roughly with contact by evangelizing Franciscans and the opening of the Santa Clara market. As a consequence, interaction between Navajos and Europeans became more important after this time.

Literal translation of Dinétah means "among the people" in the Navajo language. Figuratively, Dinétah refers to an area in the upper San Juan that is known, via oral tradition, to modern Navajo people as an ancient homeland. Archaeological evidence suggests that the extent of the Dinetah phase occupation is somewhat larger than indicated by the oral tradition. There is good evidence of pre-A.D. 1625 Navajo sites north of the San Juan River (Figure 10). The western extent is at least to the La Plata River, and possibly further. To the south, there is evidence of early Navajo hunting sites in the San Juan Basin. The headwaters of La Jara, Gobernador, Largo, and Cereza canyons mark the eastern boundary of Dinetah phase site distribution, but historical documents hint at a broader distribution in the upper Chama.

Subsistence during Dinetah phase was a mixture of hunting, gathering, trading, and agriculture. Hunting and gathering, and trading were likely based on Athabascan ways brought to the Southwest. Once in the Southwest, agricultural technology was acquired from the Pueblos and incorporated by the Navajo into a mixed strategy of subsistence.

Dinetah phase material culture reflects to a degree the mixed economy of the period. The hunting tool kit is well developed and may be adapted to procuring medium and large game. The recurve sinew-backed bow and specialized arrow shaft smoothers are likely introduced to the Southwest by Athabascans (Baldwin 1997; Torres 1999). The use of wooden arrow shafts in conjunction with the more powerful bow appears to support the medium to large game hunting concept. Arrow shafts were tipped with notched or unnotched stone points prepared with a microblade technology performed on cryptocrystalline materials like obsidian and chert.

Ground stone tools suitable for processing gathered and agricultural products are found at Dinetah phase sites. Storage pits are known from the earliest Navajo site and could have been introduced as part of a Puebloan suite of agricultural technologies. However, storage pits can serve as all-purpose containers for gathered goods, consequently it is not certain that this technology was acquired in the Southwest. It is certain that storage was an economic technology important for Dinetah phase Navajo.

The floral components of Navajo gathering and agriculture resemble Puebloan patterns (Toll and McBride 1998). The most likely reason for this is consequential to the acquisition of agriculture. Navajo cultivation of fields would encourage the same kinds of disturbance plant species as Puebloan fields. Certain of these disturbance plants were then exploited for food or other purposes (Dykeman 1999). Corn and beans dominate the domestic plant assemblages in Dinetah phase sites. Squash, tobacco, and chili are known from later Gobernador contexts. Of these, it is likely that squash and tobacco, both of which are common in Navajo origin stories, were grown in Dinetah phase.

Pottery used during the Dinetah phase consists of locally manufactured Dinetah Gray and Puebloan trade ware. The surface on Dinetah Gray may be smooth or manipulated in a variety of ways to produce a textured finish. Prominent among the trade ware pottery is Jemez Black-on-white though various Puebloan glaze wares are known from sites of this period. The combination of Dinetah Gray and certain Puebloan ceramics has been considered diagnostic of Dinetah phase and has been termed Ceramic Group A by some researchers (Eddy 1966; Marshall 1995). Recent research (see chapter 8), however, indicates that nonlocally produced pottery cannot be used to date occupations in Dinétah. Glaze ware and Jemez Black-on-white pottery are found on sites dating as much as 50 years later than the generally accepted end date for their manufacturing history; this negates their utility as a temporal indicator. At this time, no locally or imported pottery types, either alone or in any combination, can be confidently used to assign Dinetah phase affiliation.

Not much is known of Dinetah phase settlement pattern, because few sites have been confidently assigned exclusively to the phase. Residential sites are known from the La Plata valley and upper San Juan areas. An antelope drive in the San Juan Basin (Cella et al. 1984) may indicate use of the area for seasonal food procurement. Residential sites all contain the remains of forked-stick hogans that are usually circular in plan. Some hogans have interior architectural elements near the doorways. Covered entryways are either not apparent from archaeological remains or very rare for Dinetah phase residential structures. Interior features vary greatly amongst individual hogans. Some have no apparent internal features, but hearths and shallow rock-lined pits or metate rests are the most common internal features. Hearths are not perfectly centered within the hogan, but are usually positioned slightly off center toward the doorway.

Gobernador Phase (A.D. 1626-1775)

Navajo culture change shifted from a Puebloan orientation to a European orientation in the first half of the

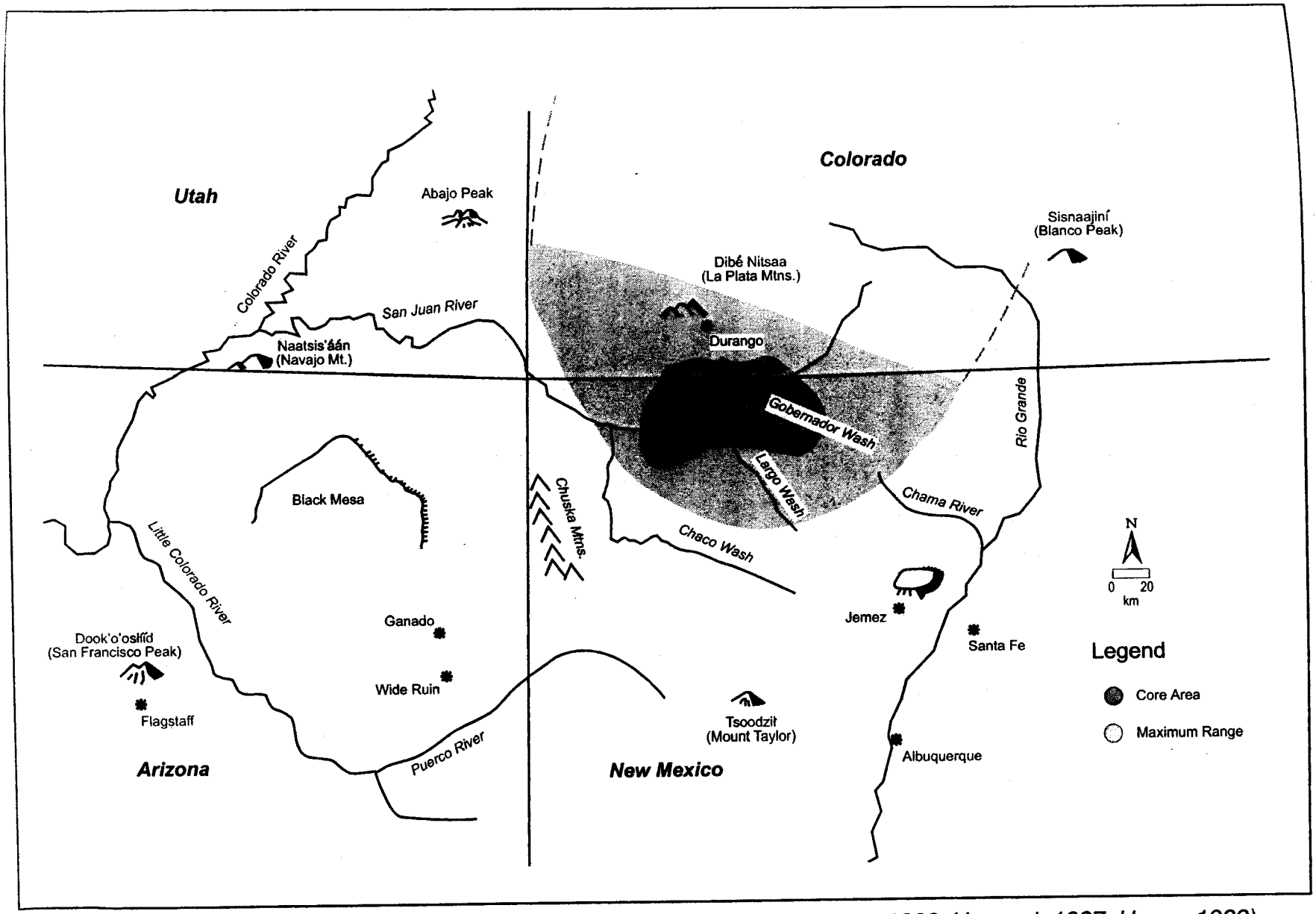

Figure 10. Range of Dinetah phase Navajo sites (sources: Brown 1996; Goodman 1982; Hancock 1997; Hogan 1989).

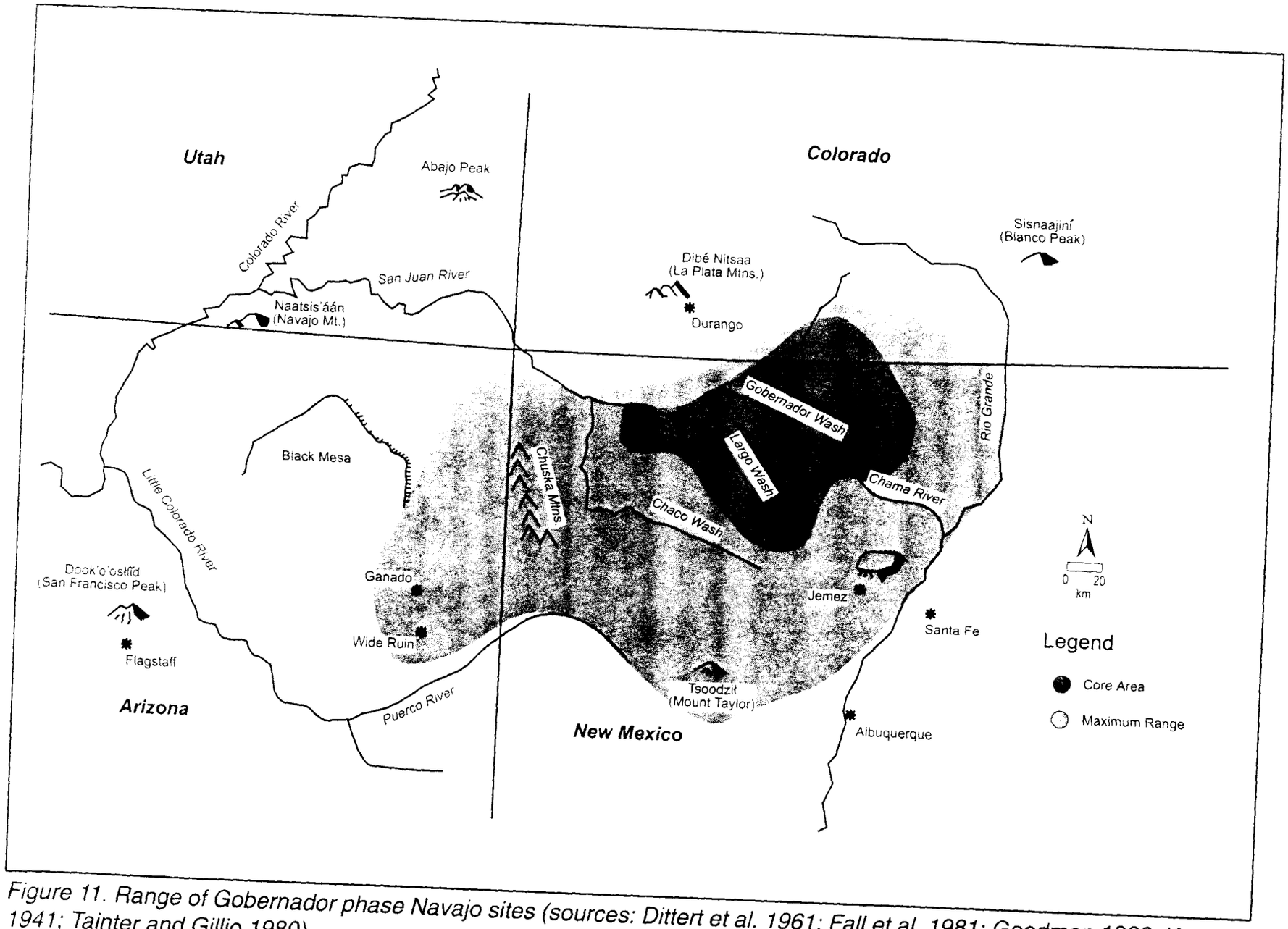

Figure 11. Range of Gobernador phase Navajo sites (sources: Dittert et al. 1961; Fall et al. 1981; Goodman 1982; Keur 1941; Tainter and Gillio 1980).

seventeenth century. From about A.D. 1626 to A.D. 1775, this culture change was marked by the acquisition and adaptation of European technologies brought by the Spanish to the New World. Prominent among these technologies was the introduction of livestock, particularly horses and sheep, which were to have a profound effect upon Navajo culture. For the duration of Gobernador phase a mixed economy of hunting, gathering, farming, herding, trading, and some raiding allowed Navajos to prosper and dramatically expand their territory to the south and west of Dinétah.

In the early A.D. 1540s, the Coronado expedition had penetrated northward to the upper Rio Grande, and explored areas east and west of that point. Had Coronado continued northward he would likely have encountered the Navajos of Dinétah. The aftermath of the Coronado expedition brought an increase in Spanish pressure northward into present day New Mexico including abortive attempts at colonization that did not carry royal sanction. Authorization for a New Mexico colony in what was known as Northern New Spain was granted in the A.D. 1580s, but efforts to establish said colony were postponed until A.D. 1598. The eventual colonists were lead by a wealthy nobleman named Juan de Oñate.

The coming of the Spanish (known as *Naakaiłbahí Nináádąą* to the Navajo) did not immediately have direct effects on Navajo culture. The Spanish concentrated on gaining a foothold amongst the Pueblos of the Rio Grande. The impact of the Spanish presence was immediately felt by the Pueblos and this no doubt was transmitted to the Navajos. Direct contacts between Spanish and Navajos may have occurred on occasion in the later half of the sixteenth century and first part of the seventeenth century, but the first attempts at a prolonged relationship were initiated by the Franciscan friars in the mid-A.D. 1620s. The goal was conversion of the Navajos to Christianity and the tactic taken by the friars was to trade exotic goods of European manufacture for Indian souls.

From a historical perspective, Gobernador phase could be started at the time of Coronado's expedition or Espejo's A.D. 1583 contact with the Navajo, or the A.D. 1598 establishment of the Spanish colony. The problem with these events is that as time markers they refer to significant events in the development of Northern New Spain and are not particularly important for early Navajo development. Historically important for Navajo culture were the missionizing attempts of the Franciscan friars in the mid-A.D. 1620s. These introduce not only Christian ideology, but a myriad of goods such as livestock, axes, metal knives, beads, and other exotic items, useful and not. Consequently, A.D. 1626, the first year of missionizing, corresponds well with Navajo culture change evident from the acquisition of and adaptation to European technologies.

The historical importance of the events of A.D. 1626 can be recognized; however, the utility of the date as the beginning of Gobernador phase has yet to be shown archaeologically. Traditional temporal-cultural schemes for the Navajo begin Gobernador phase at the time of the Spanish reconquest in A.D. 1696 (Hester 1962). This date refers to Spanish reconquest of the Pueblos, which was argued to have had major impact on the Navajo due to Pueblo refugees. It was argued that the arrival of the refugees in Dinétah caused the Navajo to become acculturated to Puebloan ways. This was evident from the adoption of architectural styles (pueblitos), polychrome pottery technology, agriculture, animal husbandry, and Puebloan spiritual beliefs. The coincidence of these cultural changes with the Spanish reconquest provided sufficient cause to begin Gobernador phase at A.D. 1696. The combination of these arguments may be called the refugee hypothesis.

In the 1990s, however, archaeologists began to deconstruct the refugee hypothesis by showing that there was little correspondence between the Spanish reconquest and Navajo adoption of Pueblo material culture. Towner (1997) found that most pueblitos were built after the supposed Refugee period and pueblitos show a great deal of Spanish influence, not just Puebloan. The advent of polychrome pottery technology predates the Refugee period by 50 years or more (Langenfeld 1999; Marshall 1995; Reed and Reed 1992; Reed and Reed 1996; also see chapter 8 for detailed discussion). Agricultural technology was established among some Navajo groups 250 years prior to the Spanish reconquest (Dykeman 1999; Hancock 1997). Hogan (1991) casts doubt upon the contention that "thousands" of refugees descended upon Dinétah as the result of Spanish reconquest. In short, the lack of correspondence between Navajo culture change and the Refugee period suggests that Pueblo refugees had few lasting effects on Navajo culture. Instead, Puebloan traits among the Navajos were likely the product of more than 200 years of socioeconomic relations between the two groups. Consequently, Pueblo Refugee period should be regarded as an example of this relationship, not the cause of it.

Navajo settlement expanded southward and westward during Gobernador phase. By the mid-A.D. 1600s, a core area with relatively high population formed in the vicinity of Gobernador and Largo canyons (Figure 11). In the first half of the eighteenth century, Navajos had expanded to most areas along the rim of the San Juan Basin. This included the Mount Taylor area on the south and Chuska slope on the west. By the end of the century Navajos were well established west of the Chuskas, but the former core area in the Gobernador-Largo was largely abandoned.

The subsistence strategy employed by Navajos during Gobernador phase consisted of a continuation of a mixed economy. Hunting, gathering, agriculture, and trade continued to be important components of subsistence. Raiding was thought to be on the increase (see Benally 1982; McNitt 1972); however, this may be more a factor of Spanish chronicling of complaints that formerly went unrecorded. The most important economic change during Gobernador phase was the introduction of animal husbandry. Evidence of horses, burros, and sheep has been documented in the archaeological record. Spanish chronicles also mention cattle in the possession of Navajos. Animal husbandry was added to an already diverse subsistence system practiced by the Navajo. Sheepherding became more important through Gobernador phase and a desire to enlarge the herd may have been a significant factor in the settlement shift to the San Juan Basin at the end of Gobernador phase.

The material culture of Gobernador phase is quite similar to Dinetah phase with the addition of European trade goods and locally produced polychrome pottery. Gobernador Polychrome ceramics were produced in the Dinétah area beginning circa A.D. 1640. Production of this pottery type probably climaxed in the first quarter of the eighteenth century. By the end of the phase, Gobernador Polychrome was no longer produced. Gobernador Polychrome is highly distinctive and its presence in archaeological contexts is diagnostic of Gobernador phase.

European trade goods usually represent a small proportion of the artifacts found at early Navajo sites. The low frequencies are unfortunate because such artifacts are archaeologically diagnostic of seventeenth- and eighteenth-century Gobernador phase sites. Probably the most important addition to the Navajo tool kit was the metal axe. The metal axe was a highly efficient tool for harvesting wood for construction and fuel purposes. The usefulness of this tool was likely not lost on the Navajo, and they were probably quick to adopt it. Metal axes are rare in Gobernador phase archaeological contexts, but evidence of their use consists of thousands of axe-cut trees near residential sites of this period (Towner 1997; Towner and Johnson 1998). The distinctive chip scars made by such axes are good indicators of tree harvesting prior to the mid-nineteenth century and consequently represent evidence of a Gobernador or Cabezon phase occupation.

Changes in Navajo settlement pattern are evident in Gobernador phase. In the Gobernador and Largo areas, the pattern appears to show a greater degree of clustering than Dinetah phase settlement. By the end of the seventeenth century more stone has been incorporated into house construction and the first pueblitos are built. Pueblitos are multiroomed stone buildings, which contrast with wooden hogans as residential structures. Hogans remain the predominant residential unit in Gobernador phase, but the A.D. 1720s usher in a virtual boom in pueblito construction (Towner 1997).

Navajo use of the Dinétah area begins to decline in the mid-A.D. 1700s. By the A.D. 1770s the area is virtually abandoned for residential purposes. The last pueblito construction occurs hundreds of kilometers to the west at places like Kinnazinde (Gilpin 1996). The shift in settlement to the San Juan Basin and eastern Arizona marks the end of Gobernador phase and the beginning of a new pastoral lifestyle for the Navajos in Cabezon phase.

Cabezon Phase (A.D. 1776-1862)

Cabezon phase is not represented in the archaeological remains of the Morris Site 1 project area. The phase is worth brief mention here because in most respects it is the product of developments begun during Gobernador phase. Cabezon phase is likely the result of two important trends in Navajo culture toward the end of Gobernador phase. First, the economic viability of sheepherding was realized (Haskell 1987). Second, the Blessingway movement calls for a reaffirmation of traditional Navajo or Athabascan culture (Brugge 1981a, 1983). These two ideas appear to have been compatible because herding offers a pastoral kind of mobility that adequately simulates the mobility associated with traditional Athabascan hunting and gathering. The benefit of herding is a continuation of a comfortable food-producing lifestyle.

The expansion of Navajo territory (Figure 12) in late Gobernador phase and early Cabezon phase may be partly responsible for an increase in warfare and raiding in the first part of the nineteenth century. Navajo expansion coupled with the expansion of Spanish, Mexican, and United States territories caused friction that erupted into a series of wars (McNitt 1972). In A.D. 1863, the United States had enough of the turmoil that it blamed on Navajos, and implemented a plan to end Navajo depredations. The Navajo were subjected to scorched-earth tactics and suffered complete defeat at the hands of the U.S. military. Deprived of infrastructure and livelihood, most Navajo were easily captured and marched to a reservation at Bosque Redondo near Fort Sumner. The Bosque Redondo experiment was a complete failure and the Navajo tribe was returned to the Four Corners area and settled on a new reservation. The Early Navajo period and Cabezon phase end in A.D. 1863, after which the Navajo tribe became a nation within a nation, the United States.

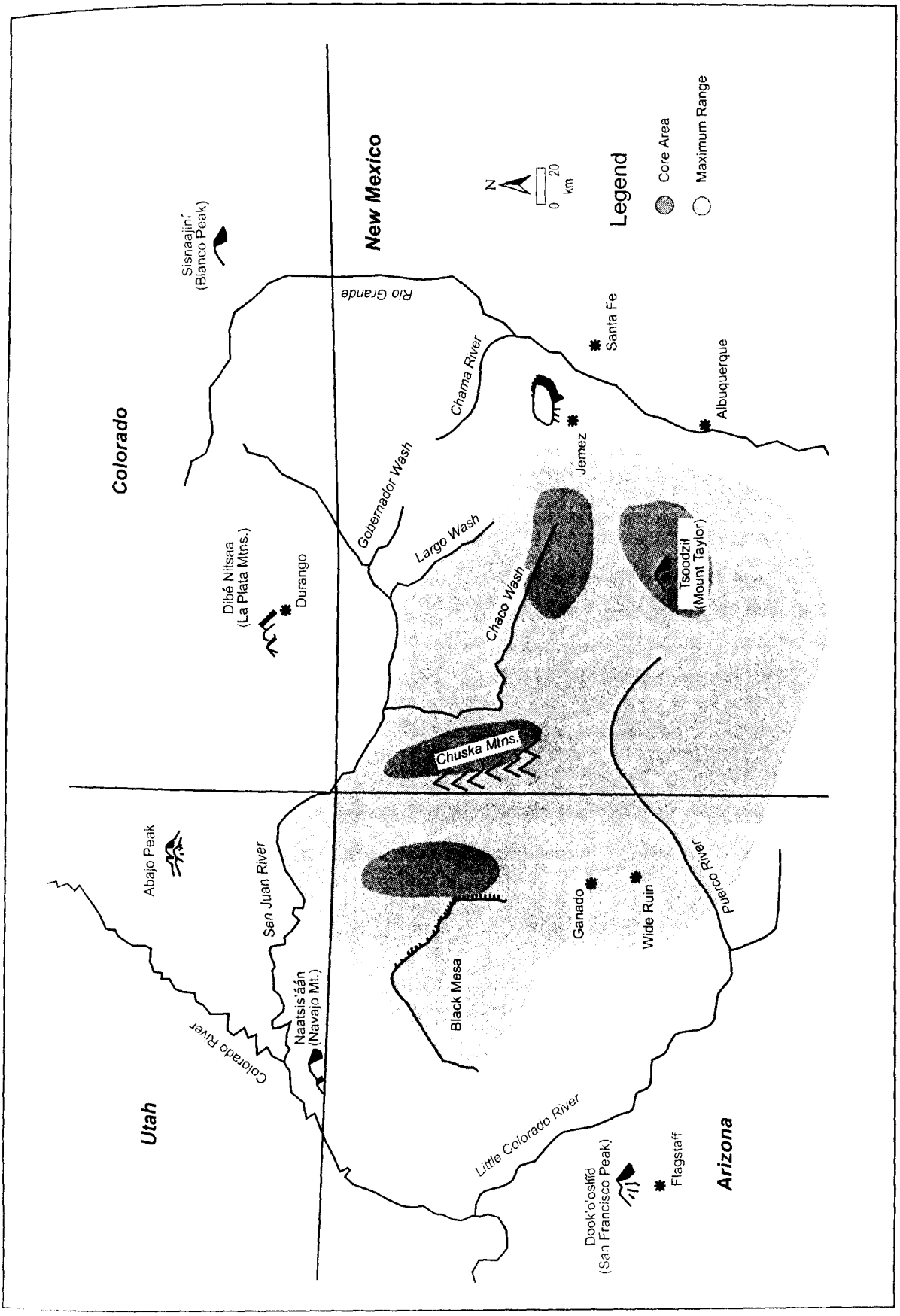

Figure 12. Range of Cabezon phase Navajo sites (sources: Goodman 1982; Keur 1941; McNitt 1972; Vivian 1960).

References Cited
Volume 1

Ahlstrom, Richard Van Ness
1985 *The Interpretation of Archaeological Tree-Ring Dates*. Ph.D. dissertation, University of Arizona, Tucson. University Microfilms, Ann Arbor, Michigan.

Amsden, Charles
1932 Navaho Origins. *New Mexico Historical Review* 7:193-209.

Anderson, Antoinette
1988 *An Archaeological Survey of Fifteen Proposed Seismic Lines (40H-28-87 through 54H-28-87) for Conoco Inc., near Chaco Canyon in McKinley County, New Mexico*. NNCRMP Report 87-158. Navajo Nation Cultural Resource Management Program, Window Rock, Arizona.

Baars, Donald L.
1972 *Red Rock Country: The Geologic History of the Colorado Plateau*. Doubleday/ Natural History Press, Garden City, New York.

Bailey, Garrick A., and Roberta G. Bailey
1980 Ethnohistory. In *Prehistory and History of the Ojo Amarillo: Archaeological Investigations on Block II, Navajo Indian Irrigation Project, San Juan County, New Mexico*, edited by David T. Kirkpatrick, pp. 1,398-1,523. New Mexico State University Cultural Resources Management Division Report 276. New Mexico State University, Las Cruces, New Mexico.

1982 *Historic Navajo Occupation of the Northern Chaco Plateau*. University of Tulsa, Tulsa, Oklahoma.

1986 *A History of the Navajos: The Reservation Years*. School of American Research Press, Santa Fe, New Mexico.

Baldwin, Stuart J.
1997 *Apacheans Bearing Gifts: Prehispanic Influence on the Pueblo Indians*. The Arizona Archaeologist No. 29. Arizona Archaeological Society, Phoenix, Arizona.

Bearden, Susan E., and Ronald G. Hefner
1988 Aztec Ruins National Monument Cataloging and Analysis Project: Accessions 8 (Partial), 11 (Partial), 23 (Partial), 41 (Partial), 78, 79, 80, 84, 85, 87, 88, and 89. Archaeological Enterprises Report No. 88-01. Ms. on file, Aztec Ruins National Monument, Aztec, New Mexico.

Benally, Clyde F.
1982 *Dinéjí Nákéé' Nááhane': A Utah Navajo History*. San Juan School District, Monticello, Utah.

Bennett, Iven
1986a Seasonal Distribution of Precipitation. In *New Mexico in Maps*, edited by Jerry L. Williams, pp. 44-45. University of New Mexico Press, Albuquerque, New Mexico.

1986b Evaporation. In *New Mexico in Maps*, edited by Jerry L. Williams, pp. 48-49. University of New Mexico Press, Albuquerque, New Mexico.

1986c Maximum-Minimum Temperatures. In *New Mexico in Maps*, edited by Jerry L. Williams, pp. 37-39. University of New Mexico Press, Albuquerque, New Mexico.

Bradley, Roberta
1992 *An Archaeological Survey of Six Proposed Pipelines, T29N, R7W, Rio Arriba County, New Mexico*. Technical Report No. 2647. Division of Conservation Archaeology, San Juan County Research Center and Library, Bloomfield, New Mexico.

1994 *Archaeological Monitoring of the San Juan 29-7 Gathering System*. CRMC Report No. 93-086M. Cultural Resources Management Consultants, Farmington, New Mexico.

Brown, Gary M.
1993 *Archaeological Testing at Three Sites near Romine Mesa, LA 11196, LA 81057, and LA 83529, to Determine the Effects of the Proposed San Juan 29-7 Unit No. 582 Well Pipeline, Rio Arriba County, New Mexico.* MAI Project 809-02. Mariah Associates, Inc., Albuquerque, New Mexico.

1996 The Protohistoric Transition in the Northern San Juan Region. In *The Archaeology of Navajo Origins*, edited by Ronald H. Towner, pp 47-69. University of Utah Press, Salt Lake City, Utah.

Brown, Gary M., and Patricia Hancock
1992 The Dinetah Phase in the La Plata Valley. In *Cultural Diversity and Adaptation: The Archaic, Anasazi, and Navajo Occupation of the Upper San Juan Basin*, edited by Lori Stephens Reed and Paul F. Reed, pp. 69-90. Cultural Resources Series No. 9. U.S. Department of the Interior, Bureau of Land Management, New Mexico State Office, Santa Fe, New Mexico.

Brugge, David M.
1964 Navajo Land Usage: A Study in Progressive Diversification. In *Indian and Spanish American Adjustments to Arid and Semiarid Environments*, arranged by Clark S. Knowlton, pp. 16-26. Texas Technical College, Lubbock, Texas.

1981a *Navajo Pottery and Ethnohistory.* Navajo Nation Papers in Anthropology 4. Navajo Nation Cultural Resource Management Program, Window Rock, Arizona.

1981b Comments on Athabaskans and Sumas. In *The Protohistoric Period in the North American Southwest A.D. 1450-1700*, edited by David R. Wilcox and W. Bruce Masse, pp. 282-290. Anthropological Research Papers No. 24. Arizona State University, Tempe, Arizona.

1983 Navajo Prehistory and History to 1850. In *Southwest*, edited by Alfonso Ortiz, pp. 489-501. Handbook of North American Indians, vol. 10, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

1985 *Navajos in the Catholic Church Records of New Mexico 1694-1875.* Navajo Community College Press Tsaile, Arizona.

1986 *Tsegai: An Archeological Ethnohistory of the Chaco Region.* U.S. Department of the Interior, National Park Service, Washington, D.C.

2000 Jemez Pueblo and the Navajos, Part I. To 1800. Paper presented at the Navajo Studies Conferences, Farmington, New Mexico.

Bureau of Land Management,
Farmington Resource Area (BLM-FRA)
ca. 1990 Memorandum of Agreement between the Bureau of Land Management, Farmington Resource Area and the New Mexico State Historic Preservation Officer Governing Compliance with Section 106 of the National Historic Preservation Act and the Development of Fruitland Coal Gas Gathering Systems. Ms. on file, U.S. Department of the Interior, Bureau of Land Management, Farmington District Office, Farmington, New Mexico.

Carlson, Roy L.
1965 *Eighteenth Century Navajo Fortresses of the Gobernador District.* University of Colorado Studies, Series in Anthropology, No. 10. University of Colorado Press, Boulder, Colorado.

Cella, Nancy S., Gary O. Rollefson, and Alan H. Simmons
1984 Prehistoric Site Descriptions. In *Archaeological Investigations in the Gallegos Canyon Area: Blocks IV and V of the NIIP*, assembled by Williams E. Reynolds, Nancy S. Cello, and Evelyn Caballero (I&II:6.1-6.427). Chambers Consultants and Planners, Albuquerque, New Mexico.

Dean, Jeffrey S.
1978 Independent Dating in Archaeological Analysis. In *Advances in Archaeological Method and Theory*, vol.1, edited by Michael B. Schiffer, pp. 223-255. Academic Press, New York.

Dice, Michael
1997 *Archaeological Investigations for Williams Field Services Trunk S Pipeline Reroute: 1996 Field Season Interim Report.* CRMC Report No. 96-024. Cultural Resources Management Consultants, Inc., Farmington, New Mexico.

Dittert Alfred E. Jr., and Joel L. Shiner
ca. 1963 Studies at Navajo Period Sites in the Navajo Reservoir District, Part II. Ms. on file, Museum of New Mexico, Santa Fe, New Mexico.

Dittert, Alfred E., Jr., James J. Hester, and Frank W. Eddy
1961 *An Archaeological Survey of the Navajo Reservoir District Northwestern New Mexico.* Monographs of the School of American Research and the Museum of New Mexico No. 23. School of American Research and Museum of New Mexico, Santa Fe, New Mexico.

Dunmire, William W., and Gail D. Tierney
1997 *Wild Plants and Native Peoples of the Four Corners.* Museum of New Mexico Press, Santa Fe, New Mexico.

Durrant, Stephen D., and Nowlan K. Dean
1961 Mammals of Navajo Reservoir Basin in Colorado and New Mexico, 1960. In *Ecological Studies of the Flora and Fauna of Navajo Reservoir Basin, Colorado and New Mexico,* edited by David M. Pendergast, pp.155-182. University of Utah Anthropological Papers No. 55. University of Utah Press, Salt Lake City, Utah.

Dykeman, Douglas D.
1999 Early Navajo Land Use and Economy-The Perfect Southwest Adaptation. Paper presented at the 64th Annual Meeting of the Society for American Archaeology, Chicago, Illinois.

2000 Accuracy and Precision in Archaeological Dating: A Correlation of Tree-ring, Thermoluminescense, and Radiocarbon Techniques. Paper presented at the 65th Annual Meeting of the Society for American Archaeology, Philadelphia, Pennsylvania.

Dykeman, Douglas D., and Jeffery T. Wharton
1994 *The Morris Site 1 Early Navajo Land Use Study: An Alternative Data Recovery Plan for Sites LA 11196, LA 83529, and LA 88766 in Williams Field Services Unit 29-7 Gas Gathering System, Rio Arriba County, New Mexico.* NNAD Report 93-308. Navajo Nation Archaeology Department, Window Rock, Arizona.

1996 *Preliminary Report on the Morris Site 1 Early Navajo Land Use Study and the Plan for Phase 3 - Focused Data Recovery.* NNAD Reports 93-306, 93-307, 93-308. Navajo Nation Archaeology Department, Window Rock, Arizona.

2000 *Archaeological Investigations at LA 71781: A Study in Cultural and Ecological Diversity Along the Upper San Juan River, Northwestern New Mexico.* Navajo Nation Papers in Anthropology No. 38. Navajo Nation Archaeology Department, Window Rock, Arizona.

Dykeman, Douglas D., Jeffery T. Wharton, Dana Robinson, and Antoinette Kurley-Begay
1997 *Preliminary Report on the La Jara Community Study and Plan for Phase 3 Problem-Oriented Studies.* NNAD Report 93-304. Navajo Nation Archaeology Department, Window Rock, Arizona.

Eastman Kodak Company
1977 *Applied Infrared Photography.* Publication No. M-28. Eastman Kodak Company, Rochester, New York.

Eddy, Frank W.
1966 *Prehistory in the Navajo Reservoir District, Northwestern New Mexico.* Museum of New Mexico Papers in Anthropology No. 15. Museum of New Mexico Press, Santa Fe, New Mexico.

Enloe, James, William C. Allan, Paul S. Grigg, Andrew T. Smith, and Stewart Peckham
1973 *An Archaeological Inventory and Evaluation of Some Prehistoric and Historic Sites in the Upper San Juan Drainage, New Mexico, with Special Emphasis on Sites in the San Juan Planning Unit, Albuquerque District, Bureau of Land Management.* Laboratory of Anthropology Note No. 119. Museum of New Mexico, Santa Fe, New Mexico.

Fall, Patricia A., J. A. McDonald, and Pamela C. Magers
1981 *The Canyon del Muerto Survey Project: Anasazi and Navajo Archeology in Northeastern Arizona.* Western Archeological Center Publications in Anthropology No. 15. National Park Service, Western Archeological Center, Tucson, Arizona.

Farmer, Malcolm
1942 Navajo Archaeology of the Upper Blanco and Largo Canyons, Northern New Mexico. *American Antiquity* 8(1):65-79.

Farmington Resource Area Cultural Advisory Group
1991 Data Comparability Guidelines for Fruitland Coal Gas Gathering System Data Recovery. Ms. on file, U.S. Department of the Interior, Bureau of Land Management, Farmington District Office, Farmington, New Mexico.

Fetterman, Jerry
1996 Radiocarbon and Tree-Ring Dating at Early Navajo Sites: Examples from the Aztec Area. In *The Archaeology of Navajo Origins,* edited by Ronald H. Towner, pp. 71-81. University of Utah Press, Salt Lake City, Utah.

Flowers, Seville
1961 Vegetation of the Navajo Reservoir Basin in Colorado and New Mexico, 1960. In *Ecological Studies of the Flora and Fauna of Navajo Reservoir Basin, Colorado and New Mexico,* edited by David M. Pendergast, pp.15-46. University of Utah Anthropological Papers No. 55. University of Utah Press, Salt Lake City, Utah.

Gill, Sam D.
1983 Navajo Views of Their Origin. In *Southwest,* edited by Alfonso Ortiz, pp. 502-505. Handbook of North American Indians, vol. 10, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Gilpin, Dennis
1996 Early Navajo Occupation West of the Chuska Mountains. In *The Archaeology of Navajo Origins,* edited by Ronald H. Towner, pp.171-196. University of Utah Press, Salt Lake City, Utah.

Goodman, James M.
1982 *The Navajo Atlas: Environments, Resources, People, and History of the Dine Bikeyah.* University of Oklahoma Press, Norman, Oklahoma.

Gummerman, George J., and James A. Neely
1972 An Archaeological Survey of the Tehuacan Valley, Mexico: A Test of Color Infrared Photography. *American Antiquity* 37:520-527.

Gunnerson, Dolores A.
1956 The Southern Athabascans: Their Arrival in the Southwest. *El Palacio* 63(11-12):346-365.

Gunnerson, James H.
1960 *An Introduction to Plains Apache Archaeology - The Dismal River Aspect.* Bulletin of the Bureau of American Ethnology 173:131-260, pls. 1-38. Smithsonian Institution, Washington, D.C.

1969 Apache Archaeology in Northeastern New Mexico. *American Antiquity* 34(1):23-39.

Hack, John T.
1941 Dunes of the Western Navajo Country. *Geographical Review* 31(2):240-263. American Geographical Society, New York, New York.

1942 *The Changing Physical Environment of the Hopi Indians of Arizona.* Papers of the Peabody Museum of American Archaeology and Ethnology Vol. 35, No. 1. Harvard University, Cambridge, Massachusetts.

Hall, Edward Twitchell
1944 Recent Clues to Athapascan Prehistory in the Southwest. *American Anthropologist* 46:98-105.

Hammond, George P., and Agapito Rey
1953 *Don Juan de Onate: Colonizer of New Mexico, 1596-1628.* University of New Mexico Press, Albuquerque, New Mexico.

Hancock, Patricia M.
1997 Dendrochronology Dates of the Dinetah. Paper presented at the 1997 Fruitland Conference, Farmington, New Mexico

Harris, Arthur H.
1963 *Ecological Distribution of Some Vertebrates in the San Juan Basin, New Mexico.* Museum of New Mexico Papers in Anthropology No. 8. Museum of New Mexico Press, Santa Fe, New Mexico.

Haskell, J. Loring
1987 *Southern Athapaskan Migration, A.D. 200-1750.* Navajo Community College Press, Tsaile, Arizona.

Hawley, John W.
1986 Physiographic Provinces I. In *New Mexico in Maps*, edited by Jerry L. Williams, pp. 23-25. University of New Mexico Press, Albuquerque, New Mexico.

Hendricks, Rick, and John P. Wilson (editors, annotators, and translators)
1996 *The Navajos in 1705: Roque Madrid's Campaign Journal.* University of New Mexico Press, Albuquerque, New Mexico.

Hester, James J.
1962 *Early Navajo Migrations and Acculturation in the Southwest.* Museum of New Mexico Papers in Anthropology No. 6. Museum of New Mexico Press, Santa Fe, New Mexico.

1971 Navajo Culture Change: 1550 to 1960 and Beyond. In *Apachean Culture History and Ethnology*, edited by Keith H. Basso and Morris E. Opler, pp. 51-67. Anthropological Papers of the University of Arizona No. 21. University of Arizona Press, Tucson, Arizona.

Hester, James J., and Joel L. Shiner
1963 *Studies at Navajo Period Sites in the Navajo Reservoir District.* Museum of New Mexico Papers in Anthropology No. 9. Museum of New Mexico Press, Santa Fe, New Mexico.

Hewett, Edgar L.
1906 Origin of the Name Navaho. *American Anthropologist* in Anthropologic Miscellanea Vol. 8, No. 1:193.

Hibbets, Barry N., and Jeffery T. Wharton
1980 *Prehistoric and Historic Settlement and Land Use in the Upper Animas River Basin of Southwestern Colorado.* Ms. on file, Supervisor's Office, San Juan National Forest, Durango, Colorado.

Hill, W. W.
1938 *The Agricultural and Hunting Methods of the Navaho Indians.* Yale University Publications in Anthropology No. 18. Yale University Press, New Haven, Connecticut.

1940 *Some Navaho Culture Changes during Two Centuries (with a Translation of the Early Eighteenth Century Rabal Manuscript).* Smithsonian Miscellaneous Collections, vol. 100:395-415. Smithsonian Institution, Washington, D.C.

Hodge, Frederick Webb
1895 The Early Navajo and Apache. *American Anthropologist* 8(3):223-240.

Hodge, Frederick Webb, George P. Hammond, and Agapito Rey
1945 Fray Alonso de Benavides' Revised Memorial of 1634. In *Coronado Cuarto Centenial Publications, 1540-1940*, edited by George P. Hammond, vol. IV. University of New Mexico Press, Albuquerque, New Mexico.

Hogan, Patrick
1989 Dinétah: A Reevaluation of Pre-Revol Navajo Occupation in Northwest Nev Mexico. *Journal of Anthropologica Research* 45(1):53-66.

1991 Navajo-Pueblo Interaction during th Gobernador Phase: A Reassessment of th Evidence. In *Rethinking Navajo Pueblitos*, pp. 1-27. Cultural Resources Series No. 8. U.S. Department of the Interior, Bureau o Land Management, Farmington Resource Area, Farmington, New Mexico.

Hogan, Patrick, Janette M. Elyea, and Peter Eschman
1991 *Overview and Research Design for the Fruitland Coal Gas Development Area.* University of New Mexico Office of Contract Archeology, Albuquerque, New Mexico.

Hoijer, Harry
1938 The Southern Athapaskan Languages. *American Anthropologist* 40(1):75-87.

Honeycutt, Linda
1995 Dryland Gardening in Southwest Colorado: Past and Present. In *Soil, Water, Biology, and Belief in Prehistoric and Traditional Southwestern Agriculture*, edited by H. Wolcott Toll, pp. 369-373. NMAC Special Publication No. 2. New Mexico Archaeological Council, Albuquerque, New Mexico.

Hovezak, Timothy D., Leslie M. Sesler, and Richard H. Wilshusen
2000 Frances Mesa Physical Setting. In *Frances Mesa Alternative Treatment Project*, compiled by Richard H. Wilshusen, Timothy D. Hovezak, and Leslie M. Sesler, vol.1, pp. 31-57. Research Papers No. 3. La Plata Archaeological Consultants, Inc., Dolores, Colorado.

Hudspeth, William B.
1997 Environmental Setting. In *OLE Volume I: Context*, edited by John C. Acklen, pp. 9-42. Public Service Company of New Mexico, Albuquerque, New Mexico.

Huscher, Betty H., and Harold A. Huscher
1942 Athabaskan Migration Via the Intermontane Region. *American Antiquity* 8(1):80-88.

1943 The Hogan Builders of Colorado. *Southwestern Lore* 9(2):2-97.

Jett, Stephen C., and Virginia E. Spencer
1981 *Navajo Architecture*. University of Arizona Press, Tucson, Arizona.

John, Elizabeth A. H.
1975 *Storms Brewed in Other Men's Worlds: The Confrontation of Indians, Spanish, and French in the Southwest, 1540-1795*. University of Oklahoma Press, Norman, Oklahoma.

Keetch, C. Wesley
1980 *Soil Survey of San Juan County, New Mexico, Eastern Part*. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

Kershner, John M.
1993 *An Archaeological Discovery near Jasis Canyon, Rio Arriba County, New Mexico, T29N, R7W, Section 32*. Report No. 318. Arboles Contract Archaeology, Farmington, New Mexico.

Keur, Dorothy L.
1941 *Big Bead Mesa: An Archaeological Study of Navajo Acculturation, 1745-1812*. Memoirs of the Society for American Archaeology 1. Society for American Archaeology, Menasha, Wisconsin.

1944 A Chapter in Navajo-Pueblo Relations. *American Antiquity* 10:75-86.

Kidder, Alfred V.
1913 Some Undescribed Ruins of the Historic Period from the Upper San Juan. *American Journal of Archaeology* 2(17):88-90.

1920 Ruins of the Historic Period in the Upper San Juan Valley, New Mexico. *American Anthropologist* 22(4):322-329.

Kluckhohn, Clyde, and Dorothea Leighton
1962 *The Navajo*. Revised Edition. Doubleday, Garden City, New York.

Kluckhohn, Clyde, W. Hill, and Lucy Wales Kluckhohn
1971 *Navajo Material Culture*. Belknap Press of Harvard University Press, Cambridge, Massachusetts.

Knaut, Andrew L.
1995 *The Pueblo Revolt of 1680: Conquest and Resistance in Seventeenth Century New Mexico*. University of Oklahoma Press, Norman, Oklahoma.

Koster, William J.
1963 The Fishes of the Navajo Reservoir District. In *Ecological Distribution of Some Vertebrates in the San Juan Basin, New Mexico*, by Arthur H. Harris, pp. 54-55. Museum of New Mexico Papers in Anthropology No. 8. Museum of New Mexico Press, Santa Fe, New Mexico.

Kuhn, Steve L.
1994 A Formal Approach to the Design and Assembly of Mobile Toolkits. *American Antiquity* 59:426-442.

Langenfeld, Kristin
1999 Pottery as a Measure of Change and Continuity in Early Navajo Households. Paper presented at the 64th Annual Meeting of the Society for American Archaeology, Chicago, Illinois.

Lowie, Robert H.
1924 *Notes on Shoshonean Ethnography*. Anthropological Papers, vol. 20, pt. 3. American Museum of Natural History, New York.

Marshall, Michael P.
1985 *The Excavation of the Cortez CO2 Pipeline Project Sites, 1982-1983*. University of New Mexico Office of Contract Archeology, Albuquerque, New Mexico.

1991 The Pueblito as a Site Complex: Archaeological Investigations in the Dinetah District. In *Rethinking Navajo Pueblitos*, pp. 1-282. Cultural Resource Series No. 8. U.S. Department of the Interior, Bureau of Land Management, Farmington Resource Area, Farmington, New Mexico.

1995 *A Chapter in Early Navajo History: Late Gobernador Phase Pueblito Sites of the Dinetah District*. OCA/UNM Report No. 185-469B. Office of Contract Archeology, University of New Mexico, Albuquerque, New Mexico.

Matthews, Washington
1994 *Navaho Legends*. Reprinted. University of Utah Press, Salt Lake City, Utah. Originally published 1897, Houghton Mifflin, Boston.

McKean, Summer
1991 *A Cultural Resources Inventory of the Proposed San Juan 29-7 Unit No. 582 Gas Pipeline Located on a Bench Above a Tributary of Romine Canyon, Rio Arriba County, New Mexico*. Report No. 91-DCI-021. Daggett and Chenault, Inc., Farmington, New Mexico.

McNitt, Frank
1972 *Navajo Wars*. University of New Mexico Press, Albuquerque, New Mexico.

Miles, David M.
1963 Birds Noted in the Navajo Reservoir District. In *Ecological Distribution of Some Vertebrates in the San Juan Basin, New Mexico*, by Arthur H. Harris, pp. 56-61. Museum of New Mexico Papers in Anthropology No. 8. Museum of New Mexico Press, Santa Fe, New Mexico.

Pendergast, David M. (editor)
1961 *Ecological Studies of the Flora and Fauna of the Navajo Reservoir Basin, Colorado and New Mexico*. University of Utah Anthropological Papers 55. University of Utah Press, Salt Lake City, Utah.

Powers, Margaret A., and Byron P. Johnson
1987 *Defensive Sites of Dinetah*. Cultural Resources Series No. 2. U.S. Department of the Interior, Bureau of Land Management, Albuquerque District, Albuquerque, New Mexico.

Reed, Lori Stephens, and Paul F. Reed
1992 The Protohistoric Navajo: Implications of Interaction, Exchange, and Alliance Formation with the Eastern and Western Pueblos. In *Cultural Diversity and Adaptation: The Archaic, Anasazi, and Navajo Occupation of the Upper San Juan Basin*, edited by Lori Stephens Reed and Paul F. Reed, pp. 91-104. Cultural Resources Series No. 9. U.S. Department of the Interior, Bureau of Land Management, New Mexico State Office, Santa Fe, New Mexico.

Reed, Paul F., and Lori Stephens Reed
1996 Reexamining Gobernador Polychrome: Toward a New Understanding of the Early Navajo Chronological Sequence in Northwestern New Mexico. In *The Archaeology of Navajo Origins*, edited by Ronald H. Towner, pp. 83-108. University of Utah Press, Salt Lake City, Utah.

Reeve, Frank D.
1957 Seventeenth Century Navaho-Spanish Relations. *New Mexico Historical Review* 32:36-52.

1958 Navaho-Spanish Wars 1680-1720. *New Mexico Historical Review* 33:204-231.

1959 Navaho-Spanish Peace 1720's-1770's. *New Mexico Historical Review* 34:9-40.

1960 Navaho-Spanish Diplomacy, 1770-1790. *New Mexico Historical Review* 35:200-235.

Riley, Carroll L.
1954 *A Survey of Navajo Archaeology*. University of Colorado Studies, Series in Anthropology No. 4:45-60. University of Colorado Press, Boulder, Colorado.

Rocek, Thomas R.
1995 *Navajo Multi-Household Social Units: Archaeology on Black Mesa, Arizona.* University of Arizona Press, Tucson, Arizona.

Roessel, Robert A.
1983 *Dinetah, Navajo History Volume II.* Navajo Curriculum Center and Title IV-B Materials Development Project, Rough Rock Demonstration School, Rough Rock, Arizona.

Sandor, Jonathan A.
1995 Searching Soil for Clues About Prehistoric Agriculture. In *Soil, Water, Biology, and Belief in Prehistoric and Traditional Southwestern Agriculture*, edited by H. Wolcott Toll, pp. 119-137. NMAC Special Publication No. 2. New Mexico Archaeological Council, Albuquerque, New Mexico.

Sapir, Edward
1936 Internal Linguistic Evidence Suggestive of the Northern Origin of the Navajo. *American Anthropologist* 38:224-235.

Schaafsma, Curtis F.
1979 *The Cerrito Site (AR-4): A Piedra Lumbre Phase Settlement at Abiquiu Reservoir.* School of American Research, Santa Fe, New Mexico.

1981 Early Apacheans in the Southwest: A Review. In *The Protohistoric Period in the North American Southwest, A.D. 1450-1700*, edited by David R. Wilcox and W. Bruce Masse, pp. 291-320. Anthropological Research Papers No. 24. Arizona State University, Tempe, Arizona.

1993 The Piedra Lumbre Phase and the Origin of the Navajos. Paper presented at the 58th Annual Meeting of the Society for American Archaeology, Saint Louis, Missouri.

1996 Ethnic Identity and Protohistoric Archaeological Site in Northwestern New Mexico: Implications for Reconstructions of Navajo and Ute History. In *The Archaeology of Navajo Origins*, edited by Ronald H. Towner, pp. 19-46. University of Utah Press, Salt Lake City, Utah.

Schoenwetter, James
1964 The Palynological Research. In *Alluvial and Palynological Reconstruction of Environments, Navajo Reservoir District*, by James Schoenwetter and Frank W. Eddy, pp.63-107. Museum of New Mexico Papers in Anthropology No. 13. Museum of New Mexico Press, Santa Fe, New Mexico.

Schoenwetter, James, and Frank W. Eddy
1964 *Alluvial and Palynological Reconstruction of Environments, Navajo Reservoir District.* Museum of New Mexico Papers in Anthropology No. 13. Museum of New Mexico Press, Santa Fe, New Mexico.

Sesler, Leslie M., Timothy D. Hovezak, and Richard H. Wilhusen
1999 Mid-level Social Organization of Late Gobernador Phase Navajo Communities in Northwestern New Mexico. Paper presented at the 64th Annual Meeting of the Society for American Archaeology, Chicago, Illinois.

Stokes, Marvin A., and Terah L. Smiley
1996 *An Introduction to Tree-Ring Dating.* Reprinted. University of Arizona Press, Tucson, Arizona. Originally published 1968, University of Chicago Press, Chicago, Illinois.

Tainter, Joseph A., and David A. Gillio
1980 *Cultural Resources Overview: Mount Taylor Area, New Mexico.* USDA Forest Service and USDI Bureau of Land Management, Albuquerque, New Mexico.

Toll, Mollie S., and Pamela J. McBride
1998 *Plant Remains from 17th and 18th Century Navajo Occupations at LA 78178 and 79469, the Trunk S Project, Northwestern New Mexico.* Office of Archeological Studies Ethnobotany Lab Technical Series No. 62. Museum of New Mexico, Santa Fe, New Mexico.

Torres, John A.
1999 Adapting Old Lithic Traditions to a New World Order. Paper presented at the 64th Annual Meeting of the Society for American Archaeology, Chicago, Illinois.

Towner, Ronald H.
1997 *The Dendrochronology of the Navajo Pueblitos of Dinétah.* Ph.D. dissertation, University of Arizona, Tucson. University Microfilms, Ann Arbor, Michigan.

Towner, Ronald H., and Jeffrey S. Dean
1996 Questions and Problems in Pre-Fort Sumner Archaeology. In *The Archaeology of Navajo Origins*, edited by Ronald H. Towner, pp. 3-18. University of Utah Press, Salt Lake City, Utah.

Towner, Ronald H., and Byron P. Johnson
1998 *The San Rafael Survey: Reconstructing Eighteenth Century Navajo Population Dynamics in the Dinétah using Archaeological and Dendrochronological Data.* Arizona State Museum Archaeological Series 190. University of Arizona Press, Tucson, Arizona.

Towner, Ronald H., Leslie Sesler, and Tim Hovezak
1998 Navajo Culturally Modified Trees in the Dinetah. In *Diné Bíkéyah: Papers in Honor of David M. Brugge*, edited by Meliha S. Duran and David T. Kirkpatrick, pp. 196-209. Archaeological Society of New Mexico: 24. Archaeological Society of New Mexico, Albuquerque, New Mexico.

Tschopik, Harry Jr.
1941 *Navaho Pottery Making: An Inquiry into the Affinities of Navaho Painted Pottery.* Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 17 no.1. Peabody Museum, Cambridge, Massachusetts.

United States Department of Agriculture-Agricultural Stabilization and Conservation Service
1991 Aerial Photographs 3562-15 and 3562-16. Soil Conservation Service, Salt Lake City, Utah.

United States Department of Agriculture-National Cooperative Soil Survey (USDA-NCSS)
1990 Official Series Description - Witt Series. In Established Series Rev. VGL/RJA/LWH 10/90[cited2/9/00]; available at http://www/statlab.iastate.edu/soils/osd/dat/w/Witt.html; INTERNET.

Vivian, R. Gwinn
1960 *The Navajo Archaeology of Chacra Mesa, New Mexico.* Unpublished Master's thesis, Department of Anthropology, University of New Mexico, Albuquerque, New Mexico.

Vogt, Evon Z.
1961 Navajo. In *Perspectives on American Indian Culture Change*, edited by Edward H. Spicer, pp. 278-336. University of Chicago Press, Chicago, Illinois.

Wharton, Jeffery T., Douglas D. Dykeman, and Paul F. Reed
1996 *Small Site Archaeology in the Upper San Juan Basin: Investigations at Archaic, Anasazi, and Navajo Sites in Northwestern New Mexico.* Navajo Nation Papers in Anthropology 32. Navajo Nation Archaeology Department, Window Rock, Arizona.

White, Clayton M., and William H. Behle
1961 Birds of Navajo Reservoir Basin in Colorado and New Mexico, 1960. In *Ecological Studies of the Flora and Fauna of Navajo Reservoir Basin, Colorado and New Mexico,* edited by David M. Pendergast, pp.129-154. University of Utah Anthropological Papers No. 55. University of Utah Press, Salt Lake City, Utah.

Wilcox, David R.
1981 The Entry of American Athabascans into the American Southwest: The Problem Today. In *The Protohistoric Period in the North American Southwest, AD 1450-1700,* edited by David R. Wilcox and W. Bruce Masse, pp. 213-256. Anthropological Research Papers No. 24. Arizona State University, Tempe, Arizona.

Wilcox, David R., and W. Bruce Masse (editors)
1981 *The Protohistoric Period in the North American Southwest A.D. 1450-1700.* Anthropological Research Papers No. 24. Arizona State University, Tempe, Arizona.

Williams, Jerry L. (editor)
1986 *New Mexico in Maps*. University of New Mexico Press, Albuquerque, New Mexico.

Wilshusen, Richard H. (compiler)
1995 *The Cedar Hill Special Treatment Project: Late Pueblo I, Early Navajo, and Historic Occupations in Northwestern New Mexico.* Research Papers No. 1. La Plata Archaeological Consultants, Dolores, Colorado.

Wilshusen, Richard H., Timothy D. Hovezak, and Leslie M. Sesler (compilers)
2000 *Frances Mesa Alternative Treatment Project*. Research Papers No. 3. 2 vols. La Plata Archaeological Consultants Inc., Dolores, Colorado.

Wooderson, Lee A.
1998 *El Obrero, Sal de La Tierra: An Ethnographic Inquiry of Sites LA 34607and LA 85375 in San Juan and Rio Arriba Counties, New Mexico.* San Juan College Research Papers in Anthropology No. 10. San Juan College Cultural Resources Management Program, Farmington, New Mexico.