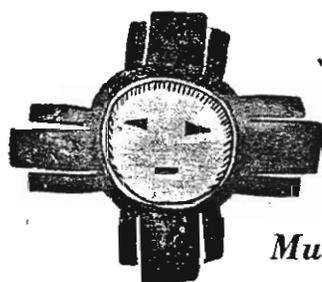


*early*  
**NAVAJO MIGRATIONS**  
*and* **ACCULTURATION**  
*in the southwest*

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*by*  
**James J. Hester**

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# CHAPTER I

## INTRODUCTION

### THE PROBLEM

The subject "Early Navajo Migrations and Acculturation in the Southwest" includes many problems suitable for investigation by different techniques. This paper will treat, primarily, with data from archaeology, history, and ethnology and will attempt a synthesis to yield a more valid reconstruction of past events than would be possible from data entirely within a single discipline.

Problems to be treated in this paper are: (1) what area the Navajos occupied before they came to the Southwest; (2) when and where they entered the Southwest; (3) the subsequent direction of their movements; (4) what archaeologically recognizable cultural items they possessed upon arrival; (5) which traits were later acquired from the Pueblo Indians or other cultural groups; and (6) how these traits were assimilated by the Navajos.

#### Temporal Limitations

We are concerned with Navajo culture from the earliest definable date in the Southwest ca. A.D. 1500, until an arbitrary date of approximately A.D. 1800. There are three reasons for this terminal date: (1) the historical records consulted are all from the Spanish period and thus comparable in nature; (2) the Navajo Tribe has been conducting exhaustive archaeological and historical research on the Navajo occupation of the mid-19th century to obtain evidence for their land claims, so that any research on this time period would be a duplication of effort; and (3) the ethnographic literature contains such a wealth of material on Navajo culture of the 19th and 20th centuries that it is deemed advisable to use this information as the "known" and proceed from this point in time backward

into the "unknown" and thus unite Navajo archaeology and ethnology.

#### Geographic Limitations

During the time period described above the distribution of the Navajos varied but the area of most importance is bounded on the northeast by the Continental Divide, on the east by the Rio Puerco, on the south by the San Jose and Puerco River valleys, on the west by the Little Colorado and Colorado Rivers, and on the north by the San Juan River (Figure 1).

#### Collections of Material Culture

The major collections studied are those at the Laboratory of Anthropology of the Museum of New Mexico, held in the names of the Laboratory of Anthropology, Inc., the School of American Research, the Museum of New Mexico, the Indian Arts Fund, and the personal collections of Mike Kelly and C.O. Erwin, the latter on loan to the museum.

Within this large group of collections the provenience data available for the specific items varies from none to good. The best documentation is available for items recovered during the archaeological salvage operations of the Navajo Project (Dittert, Hester, and Eddy, 1961) on the upper San Juan River. Good documentation is present for items recovered by a Laboratory of Anthropology expedition to the Gobernador locality of New Mexico in 1937. Additional items within these various collections have less provenience data, having been purchased, borrowed, or received as gifts from private individuals.

The second most important source is the material collected by Earl Morris in 1915 from the Gobernador locality. These items form part of the collections of the University of Colorado Museum. An unpublished manuscript by Earl Morris (1916) describing the Navajo sites he located and the objects recovered from them was lent by the University of Colorado Museum.

Minor sources include the collections at the Southwest Archeological Center at Globe, Arizona, and at Mesa Verde National Park.

A few objects pertinent to this study in private hands were examined when it was felt that they would add to the information from the institutional collections.

Comparative material for the study of ceremonial paraphernalia was available in the ethnographic collections of the Museum of Navajo Ceremonial Art.

#### Collections of Historical Documents

Historical documents examined were those of the Spanish period in the New Mexico State Archives, and the Land Grants Documents in the New Mexico State Land Office. Both of these collections have been indexed by Twitchell (1914).

The numerous historic maps examined are photostatic copies in the Lowery collection of the U.S. National Archives in the library of the Museum of New Mexico and in the personal library of Albert H. Schroeder.

#### Site Survey Data

Primary sources of site survey data on Navajo sites are extremely limited. The site survey of the Museum of New Mexico, in large part due to the Navajo Project, supplies most of the site data considered here. A portion of the site survey data obtained by the Navajo Tribe is available as a result of a hearing held in Prescott, Arizona (Healing vs. Jones, 1960). This information pertains only to Navajo sites in the vicinity of the Hopi Indian Reservation.

Tree-ring dated sites, with their locations, as presented in Chapter 9 have been derived largely from data collected by the archaeologists for the Navajo Land Claims. The dates are the result of work by Laboratory of Tree-Ring Research personnel of the University of Arizona and are to be published by Smiley and Stokes (MS).

#### Premises

The following statements are assumed true for the purposes of this paper:

1. The concept of culture used is that of Osgood (1951, p.208):

Culture consists of all ideas of the manufactures, behavior, and ideas of the aggregate of human beings which have been directly observed or communicated to one's mind and of which one is conscious.

2. The Southwest comprises all of Arizona and New Mexico plus the southeast portion of Utah and southwest portion of Colorado.

3. The Navajos and Apaches were a single ethnic group sharing a common "culture core" (Steward, 1955, p.37) during the period prior to that described in this study.

4. The Navajos are distinct from the Apaches archaeologically during the time period studied in this paper.

5. The Navajos are distinct archaeologically from the Pueblo Indians, except during the Refugee period after the Pueblo revolt 1680-1696 when the Navajos and some Pueblo Indians lived together.

#### Method for the Analysis of Data

Statements within this section describe how specific problems were investigated in a specific order. All Navajo culture is described before an attempt is made to isolate those elements derived from Puebloan culture and so forth. As a result, the statements below are in a logical order corresponding in general to the organization of the study.

1. Due to the limitations of the data the majority of this work will deal with techniculture (Osgood, 1951, p.212). Therefore, aspects of the social and mental culture of the early Navajos will be derived from an application of the method of the specific historical analogy (Willey in Tax and others, 1953, p.229):

Here you have, in a single area, a presumed or reasonably demonstrated cultural continuity from prehistoric to historic times, on into a living ethnology in the same area.

2. Subtraction of traits demonstrably of Puebloan or Spanish origin will leave a core of traits which may tentatively be termed Early Navajo. This identification of non-Navajo traits depends upon specific historical analogy. After the original Navajo traits are isolated, the acculturation which occurred, and the acculturative processes involved, will be described.

3. This description of acculturative processes will be oriented to isolate the reasons for acceptance or rejection of specific traits and to differentiate between the acculturative effects of "site-unit" intrusion versus "trait-unit" intrusion (Lathrap, 1956, pp. 7-8).

4. Removal of those traits attributed to acculturation will leave a core of traits which may be termed "traditional Navajo" which, when examined will demonstrate which aspects of Navajo culture are most resistant to change. This will permit the prediction of future change in Navajo culture.

5. The combined data from historical sources and tree-ring dated archaeological sites will enable the formulation of interpretations as to the geographic spread of the Navajo through time.

6. Correlation of geographic place names in Navajo mythology with the geographic spread of the Navajos through time will yield insight into the age of the myths and the processes of culture change involved.

#### Hypotheses to be Tested

These statements include those hypotheses which attempt to explain Navajo ori-

gins in the whole cultural sense, or the origins of specific cultural traits and trait complexes.

1. The Navajos entered the Southwest about 1000.

2. The Navajos entered the Southwest about 1500.

3. The Navajos entered the Southwest from the western Plains, across the San Luis Valley in Colorado, and then over the Continental Divide and down the San Juan River Valley into New Mexico.

4. The Navajos entered the Southwest down the western side of the Rocky Mountains.

5. The Navajos entered the Southwest through the Great Basin.

6. The Navajos entered the Southwest down the eastern side of the Rocky Mountains into northeastern New Mexico, thence west to the San Juan River Valley.

7. After entering the Southwest the general expansion of the Navajos has been to the south and west.

8. Traits acquired by the Navajos after they entered the Southwest are primarily of Puebloan origin.

9. The most intensive period of Navajo-Pueblo acculturation was during and immediately after the Pueblo Revolt, 1680-1696.

10. The sacred mountains of the Navajos, the boundaries of the traditional Navajo homeland, may be identified with a period of Navajo settlement in the Southwest after 1700.

#### Method for Examination of Objects

Only those objects of material culture are included in this study which have enough provenience data to infer a place in Navajo material culture (in the sense of having been used by the Navajos, not necessarily made by them) prior to 1800. In some cases, the date, the culture, or both may be suspect; these instances are more fully discussed in the artifactual descriptions. Occasionally, several similar artifacts in the collections are described together, with variations being noted. Due to the limited nature of the sample, it was not possible to group the artifacts into "types" (Rouse, 1939, pp. 9-35).

through the action of erosion, little deterred by vegetative cover.

#### Drainage

The major portion of the surface water in the Navajo country drains into the Colorado River, the principal drainage of the entire Colorado Plateau. The water is carried to the Colorado by the San Juan River, with a watershed of 14,000 square miles, the Little Colorado River draining 9,900 square miles, and minor tributaries contributing the runoff from 1,800 square miles. The San Jose River and Rio Puerco drain into the Rio Grande rather than the Colorado and are of secondary importance in terms of amount of water carried.

Because of climatic factors, all of the streams fluctuate widely in flow, such as the runoff from the winter snow fall and the sudden summer thunder showers. The largest runoff is in June, the smallest in September. The maximum flow can be a hundred times the minimum flow.

Streams in the area may be divided into three classes: perennial streams, intermittent streams perennial through a part of their course, and streams which flow only after rain showers. Streams of the first class include the San Juan and San Jose Rivers, Oak, Nasja, Bridge, Junction, Cha, Desha, Nokai, Copper, Moonlight, Gypsum, and Piute Creeks. Second class streams are Spruce Brook, Chinle, Tyende, de Chelly, Black, Navajo, and Walker Creeks, and Moenkopi Wash. Streams of the third class include the Rio Puerco, Puerco River, Chaco Wash, and the Hopi Washes (Gregory, 1917, p. 12). This class also includes thousands of smaller drainages too numerous to list by name. These dry streams are the typical ones of the Navajo country and represent 99 per cent of the linear extent of the drainage channels.

Stream gradients throughout the Navajo country are typically steep. The San Juan has a gradient of nine feet to the mile, the Little Colorado has a gradient of seventeen feet to the mile. Generally the shorter the course of the stream, the steeper is its

gradient. Streams draining Navajo Mountain have the steepest gradient, 800 feet per mile. This gradient contributes to the dissipation of the available surface water; arroyos flood one day and are bone dry for weeks.

There is little surface water in the Navajo country at any time. What water is present is concentrated along the upper courses of streams rising in the mountains, thus being extremely limited in geographic extent. Large areas without any permanent surface water at all include the Chaco drainage and the entire area between the Chinle Valley and the Colorado River south of 36 degrees North Latitude, with the exception of a part of Moenkopi Wash. Surface runoff due to rain is rapid and channelled into entrenched courses. As a result, there is little effective soil moisture. It is obvious that the presence of surface water and changes in its availability, through time, has played an important role in the distribution of human habitation throughout the prehistory of the area.

#### Climate

The climate of the Navajo country is one of extreme contrasts. There is a marked seasonal distribution of rainfall. Temperatures vary widely from winter to summer and from day to night. Storms are intense and of brief duration. These contrasts are also typical of longer intervals with wide variability being recorded for annual rainfall and length of growing season. These fluctuations represent a departure from the mean as high as 15 to 25 per cent some 20 to 40 per cent of the time. Occasional departures from the mean reach a magnitude of 50 per cent (Day, 1922; Reed, 1918; Schulman, 1945, p. 48). There is evidence that these fluctuations (at least in precipitation) are cyclical in nature with an average cycle length of 23 to 24 years (Schulman, 1945, p. 47).

In addition to these seasonal factors, the climate is controlled in large part by elevation. The higher elevations may be characterized as cold and wet, the lower elevations warm and dry. Figure 2 shows a high semi-circular area from the southern

end of the San Juan Mountains through the Nacimiento Mountains, Mount Taylor, the Zuni Mountains, the Chuska Mountains, and Carrizo Mountain, which possesses greater annual rainfall, cooler temperatures, less thermal efficiency, and a shorter growing season than the low areas of the San Juan Basin and the lower Little Colorado River Valley. These two contrasting areas may be described in the Thornthwaite system of climatic classification as follows:

High Area - C1, C'2, S, b's - dry sub-humid, second microthermal, moderate seasonal moisture variation with summers the driest season, and a temperature efficiency regime normal to second mesothermal.

Low Area - D, B'1, d, b'2 - semi-arid, first mesothermal, no water surplus in any season, and a temperature efficiency regime normal to second mesothermal (Thornthwaite, 1948, map facing page 94).

The average annual rainfall in these two areas is from ten to fifteen inches with summer rainfall being four to six inches. The growing season lasts from 90 to 150 days. The average summer temperature is from 60 to 70 degrees and the average annual thermal efficiency varies from 16.83 to 82.05 inches (Fig. 2, a-d). The contrast in climate between these two areas is so great that it must be considered in any study of the early Navajo occupation.

#### Flora and Fauna

The vegetation (Fig. 2-e) and associated fauna of the Navajo country occur in zones or belts determined in large part by elevation. These zones have been described by Bailey

(1913). The predominant zone in the Navajo country is that of the Upper Sonoran, 5,000 to 8,000 feet in elevation, depending on the slope, and characterized by a pinyon-juniper forest cover. The lower portion of the Upper Sonoran zone is treeless and exhibits a desert grass and sagebrush cover. At an elevation of 7,000 to 9,500 feet the Transition zone is characterized by a yellow pine forest. These two zones represent over 90 per cent of all the Navajo country and probably 100 per cent of the area containing prehistoric human habitation dependent upon corn agriculture. The remaining area, the higher portions of the mountain ranges, is assigned to the Canadian zone, typified by a spruce-fir forest. Aboriginal occupation of this highest zone is not likely.

Faunal differences important to an aboriginal economy would have been as follows: the Canadian zone would have provided elk and mountain sheep; the Transition zone would have furnished deer, bear, turkey, and possibly elk; and the Upper Sonoran would have provided deer, antelope, and rabbit.

#### Soils

The formation of soils within the Navajo country appears to be directly related to physiography and vegetative cover. Prehistoric peoples favoring a particular vegetation zone for habitation would have found suitable sites throughout this zone. The upper portion of the Upper Sonoran zone and the Transition zone are characterized by lithosols and rough stony land. The lower portion of the Upper Sonoran zone contains brown soils and gray desert soils (Fig. 2-f).

## CLIMATIC HISTORY

An analysis of tree-ring records in the Southwest covering the last two thousand years indicates a series of climatic cycles (Schulman, 1956, p. 69). These data available for the climate of the past must be studied to learn

the relation between the prehistoric Navajos and their environment.

There are three primary sources of data on the past climate of the area under

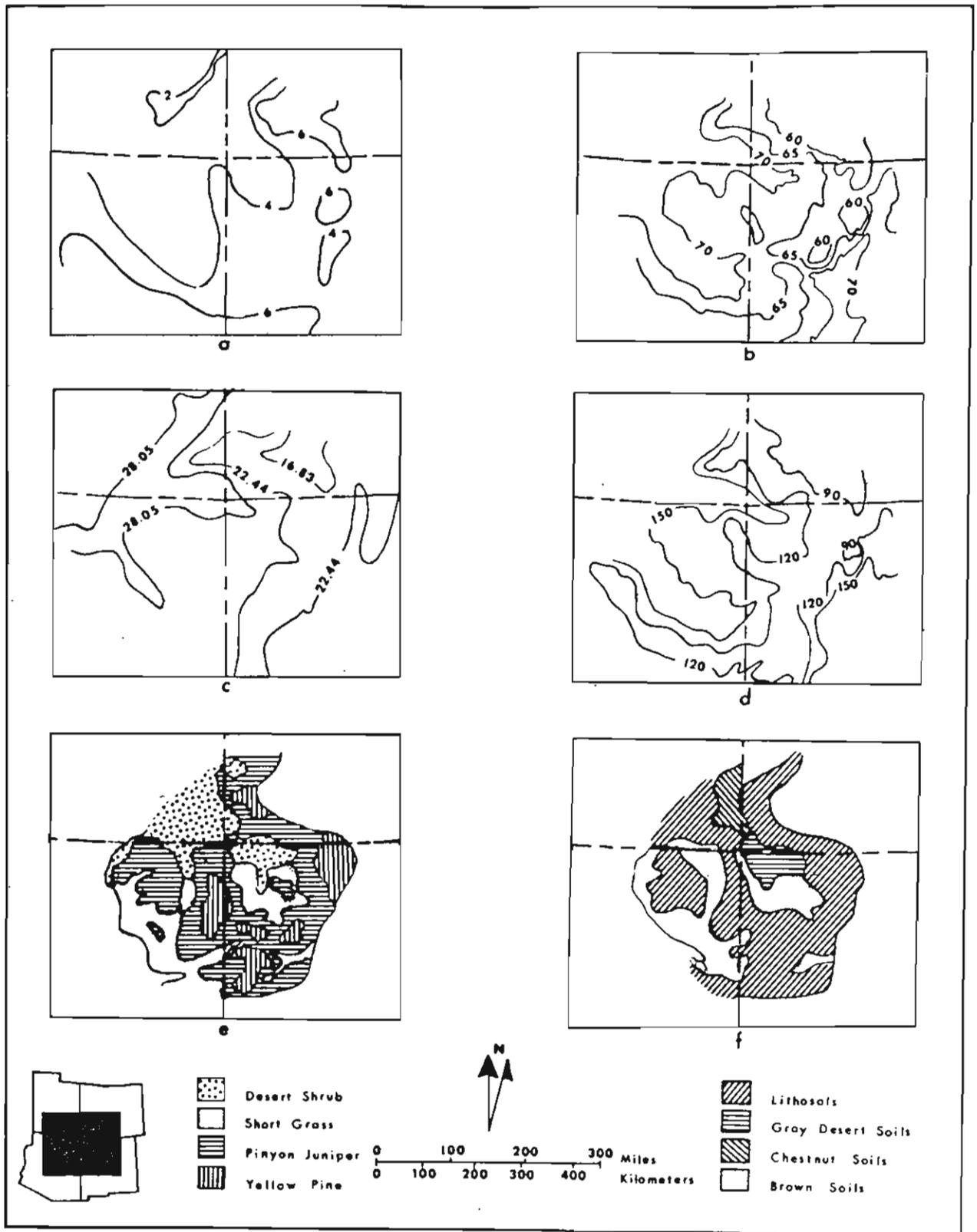


Fig. 2. Distribution of climatic factors, vegetation, and soils in the Navajo Country. a, summer precipitation (after Day, 1922, Fig. 40); b, average summer temperature (after Kincer, 1928, Fig. 2); c, average annual thermal efficiency (after Thornthwaite, 1948, Pl. 1 c); d, vegetation (after Hunt, 1956, Fig. 5); e, soils (after Hunt, 1956, Fig. 6).

PROCESS	EVENT	DATE
Erosion	Present arroyo system formed	1860 to present
Sedimentation	Filling of channels	After completion, perhaps after abandonment of Pueblo Bonito
Erosion	Canyon-long arroyo and tributaries formed	Probably post-Bonito
Sedimentation	Upper 4 foot zone transition- Pueblo III Period al with lower zone, deposit	

consideration: tree-ring records, the record of alluviation and channel cutting in the recent geological sediments, and the sequence of human occupation.

Schulman (1945, Table 8) has summarized the tree-ring information from the Colorado River Basin for the time interval 1288 to 1940. Interpretations derived from these data are: (1) prior to 1600, climatic fluctuations were of long average duration; (2) post 1600 these fluctuations were shorter in duration; (3) the major climatic event between 1299-1870 was the 1573-1593 drought; (4) the drought period beginning in 1870 and continuing to the present is the most severe since the 1276-1299 drought (Schulman, 1956, p. 69). With these considerations in mind we can see that the present is not a typical period in the climatic history of the Navajo country. Since 1299, this climatic history has been one of greater precipitation than at present, with the exception of a drought interval in the late 1500's which may have been as severe as at present.

Bryan, in his study of the relationship between prehistoric occupations in Chaco Canyon and the sequence of alluviation, came to the conclusion that these are intimately related through the utilization of "flood water farming" (Bryan, 1954, pp. 39-47; Gregory, 1916, pp. 104-105). This is a system where by crops are planted to receive water from runoff. This type of farming is related to alluvial cycles; when entrenchment occurs, the water table is lowered, the flood waters

run between confined banks, and little is available for soil moisture. By contrast, periods of alluviation result in channel filling, water table rises, and available runoff may be utilized to the maximum, spreading out over a wide area and contributing to a high soil moisture.

As an example of this relationship, we will consider the record of alluviation in Chaco Canyon. The history of these changes in Chaco Canyon from about 1000 to the present is as shown above (Bryan, 1954, p. 37).

The tree-ring chronology suggests that the post-Bonito erosion may be correlated with the drought in the middle 12th century, with subsequent refilling occurring between 1250-1400. By 1500-1600, the ecological equilibrium was re-established and the Chaco area would have been suitable for habitation (Judd, 1954, p. 14).

The record of human habitation in the Navajo country since 1000 shows that there were large population centers in the Kayenta, Chaco, Mesa Verde, and La Plata localities which were abandoned toward the end of Pueblo III, in the 12th and 13th centuries. The Puebloan groups moved (with the exception of the Hopi), into the permanent river valleys where a more stable water supply was available. This situation has continued until the present without any appreciable change. These population movements left a geographic vacuum into which the Navajos moved.

## THE NAVAJO COUNTRY IN RELATION TO NAVAJO CULTURE

Environment acts as a limiting factor by affording only certain aspects which may be exploited. Culture acts as a limiting factor in that aspects of the environment may not be utilized due to cultural bias or to the lack of suitable exploitative techniques. Introduction of new cultural ideas and techniques either through innovation or culture contact can result in the utilization of previously ignored aspects of the environment.

Important environmental factors affecting the prehistoric occupation of the Navajos are:

- (1) There is little surface water in the Navajo country at any time and the available water is concentrated in limited areas.
- (2) There is a physiographic control of the climate, flora, and fauna which divides the region into a high area and a low area.
- (3) There have been significant fluctuations in the climate and alluviation in the past.
- (4) Following abandonment of the Pueblo III population centers, the entire Navajo country was essentially unoccupied until the arrival of the Navajos.

Assumption of a close relationship between environment and culture permits the

formulation of the following hypotheses from the data at hand:

1. The Puebloan centers in the Navajo country were abandoned as a result of drought and channel cutting which disrupted the agricultural system then in effect, that of flood water farming.
2. Re-occupation of this area by the Navajos was dependent upon three factors; (1) a greater dependence on hunting than was present in the Puebloan culture, (2) climatic change resulting in increased moisture and a period of alluviation which permitted resumption of flood water farming, (3) the cultural practice of the Navajos of living in a dispersed fashion, thus requiring less productivity of food per unit of area than is the case for the Pueblo Indians.
3. Navajos utilizing a corn-bean-squash agriculture probably spread along the high area first, as this area was climatically most favorable for this economy. Occupation of this entire area may have occurred prior to 1600. Occupation of the low area would appear to be dependent upon (1) the climatic stabilization which occurred after 1600; (2) the introduction of sheep to the Navajos between 1630 and 1680 (Bartlett, 1932, p.29).

## CHAPTER III

# SUMMARY OF EARLY NAVAJO ARCHAEOLOGY

### HISTORY OF THE STUDIES

The development of Navajo archaeology may best be understood in a historical context; who made the studies, when, where, in what detail, with what specific problems in mind, and what theoretical concepts have been developed as a result.

Contrasting Navajo archaeology with Pueblo archaeology, it is apparent that the Navajo studies were not begun until a late date; they are few in number, and for the most part superficial in nature, due, in part, to the nature of the archaeological materials. Hogans occur as individual architectural units and are ephemeral structures built primarily of logs. The associated artifacts are not common, making identification of the sites more difficult.

Probably the first mention of Navajo archaeological remains is that of Mindelleff (1897, pp. 166-70) who describes Navajo cist burials in Canyon de Chelly. He considered these remains to be recent. Whether this impression discouraged further work or not is not known. In any case, the subject was neglected for a number of years. Following Mindelleff's work nothing was done in Navajo archaeology until 1912 when brief surveys and excavations were initiated by Kidder, Morris, and Nelson, all working independently in the Gobernador locality in New Mexico (Fig. 3 ). Results of this research are summarized by Kidder (1920). Sites were located which possessed a wealth of cultural material dating from the period of the Pueblo Revolt. Following this period of research almost nothing was done for twenty years. Toward the end of the 1930's there was a resurgence of

interest and major expeditions were sent into the field by the Laboratory of Anthropology and Columbia University (Table I). In addition, several students from the University of New Mexico conducted independent research. Unfortunately, publications resulting from this period did not equal the scope of the field work, in large part because of the Second World War. The only major publication from this period is Big Bead Mesa (Keur, 1941), the first report to attempt a detailed picture of early Navajo culture, and still the major reference on the subject. Throughout the 1940's, research on Navajo prehistory remained dormant with no new expeditions going into the field.

In the 1950's, two large scale research programs were initiated which, when completed, will delineate the major outlines of early Navajo culture. These projects are the Land Claims Survey of the Navajo Tribe and the Navajo Project of the Museum of New Mexico. The former may be characterized as extensive in nature, comprising an archaeological survey of the entire province of the Navajo through time in the Southwest. A large sample of sites has been located, and tree-ring specimens and artifacts collected. The latter study has concentrated intensive research in a small area, recording every site and excavating in detail a sample of each manifestation. When the results of these two studies are published the prehistory of the Navajos will be fairly well documented.

As seen from Tables I and II, the total of Navajo archaeological studies is amazingly small, and most of the studies have been of brief reconnaissance type.

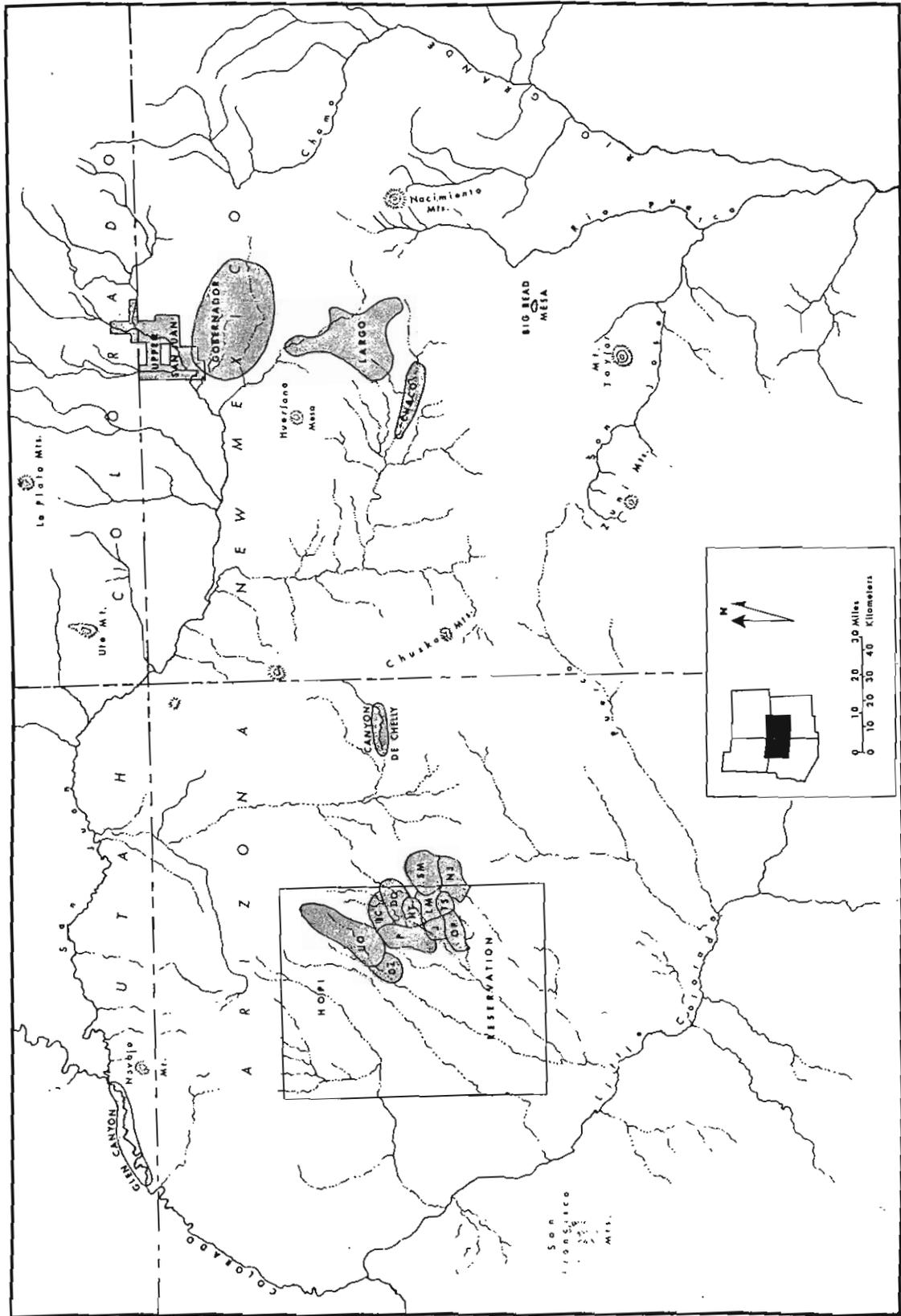


Fig. 3. Map showing locations of archaeological investigations on Navajo sites. Abbreviations of divisions within the Hopi Reservation include: DZ - Dzildajinnah; UO - Upper Oraibi; P - Pinyon; LM - Lone Mountain; J - Pitch Point; O - Owl Point; TS - Tse Chizai; NJ - North Jeddito; BC - Burnt Corn; SM - Salina Mesa; DO - Doyonescla Mesa; HT - Hoshododito Mesa.

TABLE I  
CHRONOLOGY OF ARCHAEOLOGICAL STUDIES

Researcher	Area and Date of Research	Title and Date of Publication
Mindeleff	Canyon de Chelly, Ariz.; 1895	*Cliff Ruins of Canyon de Chelly, Ariz. (1897)
Kidder	Gobernador and Largo Canyons, N. Mex.; 1912	Ruins of the Historic Period in the Upper San Juan Valley, N. Mex. (1920)
Morris	Gobernador and Largo Canyons, N. Mex.; 1915	Kutz Canyon Ruin Gobernador Pueblos. (MS, 1916)
Nelson	Gobernador and Largo Canyons, N. Mex.; 1916	
Roberts	Upper San Juan Valley, Colo. and N. Mex.; 1923	Report on Archaeological Reconnaissance in Southwestern Colorado in the summer of 1923. (1925)
Stubbs	Gobernador, La Jara, and Bancos Canyons, N. Mex.; 1930	Survey of Gobernador Region. (1930)
Malcolm	Chaco Canyon, N. Mex.; 1937	Archaeological Remains, Supposedly Navajo, from Chaco Canyon. (1939)
Farmer	Upper Blanco and Largo Canyons, N. Mex.; 1938	Field and Laboratory Reports: Archaeological Work done in the Old Navajo Country, Summer of 1938. (MS, 1938)
		Navajo Archaeology of the Upper Blanco and Largo Canyons, Northern N. Mex. (1942)
Stubbs and Mera	Gobernador Canyon, N. Mex.; 1937	
Van Valkenburgh	Largo Canyon, N. Mex.; 1938	A Striking Navajo Petroglyph. (1938)
	Chaco Canyon, N. Mex.; 1939?	We Found the Ancient Tower of Haskhek'izh. (1940)
Keur	Big Bead Mesa, N. Mex.; 1939	*Big Bead Mesa: An Archaeological Study of Navajo Acculturation, 1745-1812. (1941)
	Gobernador Canyon, N. Mex.; 1940	A Chapter in Navajo-Pueblo Relationships. (1944)
Hall	Gobernador Canyon, N. Mex.; 1941	Early Stockaded Settlements in the Gobernador, N. Mex. (1944)
		Recent Clues to Athapascan Pre-History in the Southwest. (1944)
Hurt	Canyon de Chelly, Ariz.; 1941	Eighteenth Century Navajo Hogans from Canyon de Chelly Nat'l. Monument (1942)
Riley	Largo and Blanco Canyons, N. Mex.; 1953	*A Survey of Navajo Archaeology. (1954)
Cassidy	San Juan Pipeline, N. Mex.; 1950	Navajo Remains in New Mexico; 1956
Olson and Wasley	West Section, Permian-San Juan Pipeline, N. Mex.; 1953	*An Archaeological Traverse Survey in West-Central N. Mex.; 1956
Vivian	Chacra Mesa, N. Mex.; n. d.	Two Navajo Baskets; 1957
Van Valkenburgh, Correll and Brugge	Entire Navajo Province; 1952-60	
Dittert	Upper San Juan Valley, Colo. and N. Mex.; 1956-57	Salvage Archaeology and the Navajo Project: A Progress Report; 1958
		Recent Developments in Navajo Project Salvage Archaeology; 1958
		Preliminary Archaeological Investigations in the Navajo Project Area of Northwestern N. Mex.; 1958
De Harport	Canyon de Chelly, Ariz.; 1948-50	An Archaeological Survey of Canyon de Chelly. Preliminary Report; 1951
	Canyon de Chelly, Ariz.; 1954-59	*An Archaeological Survey of Canyon de Chelly; 1959
Miller and Breternitz	Navajo Canyon, Ariz.; 1957-58	*1957 Navajo Canyon Survey Preliminary Report; 1958
		*1958 Navajo Canyon Survey Preliminary Report; 1958
Marrmon and Pearl	Big Bead Mesa, N. Mex.; 1958	A Fortified Site Near Ojo del Padre: Big Bead Mesa Revisited; 1958
Turner	Mystery Canyon, Utah; 1959	*Mystery Canyon Survey, San Juan County, Utah, 1959; 1960
Crampton	Glen Canyon, Utah and Ariz.; 1957-60	*Historical Sites in Glen Canyon, Mouth of San Juan River to Lee's Ferry; 1960
Vivian	Chacra Mesa, N. Mex.; 1954-60	Navajo Archaeology of the Chacra Mesa, N. Mex.; 1960
Dittert, Hester, and Eddy	Upper San Juan Valley, Colo. and N. Mex.; 1956-60	An Archaeological Survey of the Navajo Reservoir, Northwestern N. Mex.; 1961

TABLE II  
TYPES OF ARCHAEOLOGICAL STUDIES

Brief Survey		Extended Survey	Brief Survey and Excavation	Extended Survey and Excavation
Mindeleff	Riley	De Harport	Morris	Keur
Kidder	Cassidy	Van Valkenburgh,	Farmer	Dittert, Hester, and Eddy
Nelson	Olson and Wasley	Correll, and Brugge	Hurt	
Roberts	Gordon Vivian		Gwinn Vivian	
Stubbs	Miller and Breternitz			
Malcolm	Marron and Pearl			
Stubbs and Mera	Turner			
Van Valkenburgh	Crampton			
Hall				
Number of Studies				
18		2	4	3
Number of Publications				
17		2	5	6
Number of Pages on Navajo				
95		Not Known	ca. 450	ca. 130

### Concepts Developed

Because of the slight documentation, numerous conflicting hypotheses have been proposed to explain Navajo origins. Basic to all of these constructs is the fact that the Navajos and Apaches are a group of Athapascan speaking Indians widely separated from the main body of Athapascan speakers (Voegelin and Voegelin, 1941). It had long been assumed that this fact could be explained by postulating a migration of the Navajos and Apaches from the main Athapascan area in Canada to the Southwestern United States. However, it was not until Sapir analyzed internal linguistic evidence that proof became available to substantiate this hypothesis (Sapir, 1936).

Theoretical concepts of the various aspects of Navajo prehistory can be grouped into two broad classes: (1) those theories which attempt to explain Navajo origins in the Southwest in the whole cultural sense with respect to ethnic composition, linguistic affiliation, and cultural traits with the inclusion of postulated time periods and routes of migration; and (2) those theories which attempt to explain the presence of specific traits or trait complexes in Navajo culture. In a general sense these two classes are inseparable; however, they do differ in point of view and data sought.

The initial theory propounded to explain

Navajo origins developed from Mera's research on the Largo Phase of northwestern New Mexico (Mera, 1938). He noted pottery styles within a Woodland tradition, in a Puebloan context, which also bore a marked resemblance to historic Navajo pottery. His summary of this problem is (Mera, 1938, p. 237): Were these styles obtained from the peoples of the Largo Phase? Did the Athapascans introduce Woodland-like forms independently? Was there involved a merging of the two stocks?

E. T. Hall (1944a) further elaborated upon Mera's ideas. As summarized by Riley (1954, p. 47) these concepts are:

The nomads, possibly ancestors of the Navajo, infiltrated the Southwest before A.D. 900, perhaps intermarrying into the Rosa Culture. These invasions continued and forced the Rosa people about 1000 to retreat to the highlands where they adopted some of the introduced traits including pointed bottom pottery, and became the Gallina culture.

Huscher and Huscher (1942, p. 88) feel that many of the Apache migrated via the Intermontane region and the Rocky Mountain foothills and brought from the north a simple hunting culture; curvilinear stone houses with steeply conical sandstone slab roofs; an emphasis on percussion flaking; the lack of stone axes and mauls; specialized mano and metate forms; pointed bottom pottery with

coarse sand temper; and a distinctive petroglyph style.

However, there seems to be a possibility that the Huschers were not working with Navajo remains at all.

One theory of Navajo origins equates Promontory Black pottery of northern Utah with ancestral Navajo-Apachean groups and thus postulates a Great Basin route of migration for the Athapascans (Steward, 1936, p. 62). Another theory postulates a Plains origin for the Navajos based on similarities with the Dismal River culture (Keur, 1944, p. 11; Gunnerson, 1960, p. 252). Harrington (1940) reviews all of these migration theories with respect to the various Athapaskan groups.

Danson (1957) has suggested that the Navajo and Apache entry into west central New Mexico and east central Arizona was responsible for the Puebloan depopulation of the area in the 13th and 14th centuries. Contrary to all these views above is that of Navajo mythology, that the Navajos are living within their ancestral homeland which is bounded by the sacred mountains (O'Bryan, 1956). According to tradition, the region of earliest occupation is that termed "Dinetha," the Gobernador and Largo localities of New Mexico. With respect to this tradition, Reed (1945, p. 54) states that: "most Pueblo migration traditions are probably essentially accurate as regards one component element of a Pueblo group."

Further, he points out only the Navajos among the Apaches have such traditions at all; and the Navajos have them only for the area where Pueblo refugees migrated.

Hodge (1895; pp. 227-228), working from mythological and historical sources, suggested that the Navajos by 1650 were made up of nineteen clans of which one was Athapaskan, the original "pilgrims" of the Navajos, probably cliff dwellers; three Apache; two Yuman; one of Keresan stock; one from north of the San Juan, probably Shoshonean; one single Ute family; one of Tanoan stock; three miscellaneous Pueblo clans; and six of unknown origin. Additional conclusions of Hodge

(1895, pp. 238-239) are as follows:

1. The creation myth is remarkably accurate.
2. The ancestors of the Navajos appeared in the San Juan Valley in the latter part of the fifteenth century.
3. The original Navajos were cliff-dwellers, not related to the Apaches.
4. The Apaches preceded the Navajos into the Southwest.
5. The Apaches occupied limited areas in northwest and southwest New Mexico in the middle of the 16th century.
6. The Navajos were a composite people even before the 18th century.
7. Owing to their weakness, the Navajos and Apaches did not molest the Pueblo tribes prior to the 17th century.
8. The Navajos acquired their first flocks and herds from the Pueblos soon after 1542.
9. The accession of at least one foreign clan (Cqa'paha of Tanoan stock) by the Navajos had a marked effect on the language of the tribe.
10. The defensive character of the western Pueblos prior to 1680 was not due to predatory nomads, but to intertribal conflicts.

It is apparent from the sources quoted above that there are many diverse opinions concerning the ethnic origins of the Navajos and their migration route into the Southwest.

Theories which attempt to explain presence of specific traits or trait complexes in Navajo culture refer primarily to that period of history during and immediately after the Pueblo Indian Revolt of 1680-1696. Kidder (1920, p. 327) was the first person to discuss archaeological evidence from this period.

He stated that these houses were built during the Historic Period by people in contact with the Navajo or other people who made circular earth-covered lodges of wood. That the builders were, indigenous, and got iron tools, livestock, etc. from farther south. He also thought the builders were Pueblos who, for some reason, came north.

Mera (1938, p. 237) discussing this period of Navajo-Pueblo contact, asks the following questions: Did the Navajo, as a result of this contact, acquire certain cultur-



## CHAPTER IV

### EARLY NAVAJO HISTORY

Historical accounts referring to the pre-1800 Navajos are rare and limited in content; it is not difficult to condense what is known of Navajo history into a short chronology of events. This has been done several times in the past (Bartlett, 1932; Amsden, 1932; Van Valkenburgh and McPhee, 1938).

Amplification of this bare chronology into a true historical reconstruction of early Navajo life is difficult with the meager documentary evidence at hand. Attempts at such a reconstruction are those of J. Forbes (1960) and Worcester (1947). This state of affairs is due to several factors: (1) the historical documents are influenced by where the Spanish were and by their biases; (2) the nature of the contact between the Navajos and Spanish has determined in large part the content of the references. These contacts have been of the following types: Spanish exploration, Spanish punitive expeditions, Navajo raids, establishment of Christian missions, and establishment of Spanish Land Grants; (3) because of the successive changes in government in New Mexico, the documents have been widely dispersed among libraries and archives in Spain, Mexico, and the United States.

As a result, it is clear that any historical reconstruction of early Navajo life will be skewed, primarily in terms of items and areas of interest to the Spanish. The Spanish-Navajo frontier during historic times extend-

ed from just west of Chama and Abiquiu south down the valley of the Rio Puerco, turning west near Laguna to a point north of Zuni, and thence northwest to Hopi. More references are available for this frontier than for the Navajo homeland.

Categories of data from these documents include: (1) references to Navajo raids, indicating their presence outside their homeland; (2) references to Navajo occupation, indicating their presence in a specific area at a specific time; (3) references to material culture objects obtained by them in a raid or seen in their possession.

A brief summary of the historical references is presented below. This is a selected list of events considered to be the most important in Navajo history, intended to serve as an aid in understanding Navajo culture change.

Compilation of this summary has revealed numerous instances of controversy between various historians over the interpretation of the documents. The most crucial of these controversies concerns whether the words "Apaches or Querechos" in the documents actually meant Navajos. Both sides make good cases, and their references are included here. Actually, the fault lies with the Spanish writers, who made no effort to be consistent.

SUMMARY OF HISTORICAL EVENTS  
AFFECTING THE NAVAJOS

Date	Event	Date	Event
1541	Coronado encountered Querechos on the western Plains (Hammond and Rey, 1940, p. 186). The description of this group suggests that they were Plains Apaches.	1628	Fray Bartholome Romero and Fray Francisco Munoz went to the Apaches of Quinia and Manases to baptise (Bloom, 1933, p. 226). They built a church at Quinia's rancharia but abandoned the mission as Quinia attempted to kill Father Romero (Hodge, <i>et al.</i> , 1945, p. 90). This is the first recorded failure of the conversion of Navajos to Christianity.
1582-83	Antonio de Espejo mentioned that the pueblo of Acoma was built on the mesa top due to a war which they were having with the Querechos (Hammond and Rey, 1929, p. 86). Forbes considers these Querechos to have been Navajos (Forbes, 1960, p. 57). Albert H. Schroeder (personal communication) believes they were Apaches. Espejo also describes hostilities with a group of Querechos or Corechos, near Mt. Taylor (Hammond and Rey, 1929, pp. 112-114). This appears to be the earliest reference to Spanish-Apache hostilities.	1629	Some Spanish priests went to visit the Hopi. The Hopi became afraid of the priests' intentions and secretly summoned aid from the Apaches (Navajo?), who came to Hopi and received gifts of hawks' bells, beads, hatchets, and knives from the priests (Worcester, 1947, p. 52; Hodge, <i>et al.</i> , 1945, p. 217). A reference to the Apaches being as far west as Hopi at this early date is difficult to assess. These people may have been living at some distance from Hopi. In addition there is no direct evidence that they were Navajo.
1583	The Hopis of Awatovi had enlisted the aid of the Querechos in the nearby mountains (Forbes, 1960, p. 59). These people were sent away after the Hopi made peace with the Spanish.	1629	Navajos lived one day's travel from Santa Clara (Hodge, <i>et al.</i> , 1945, pp. 86-87).
1591	Some Indians (not identified by name) stole horses from Juan Morlete (Forbes, 1960, p. 74). This is probably the earliest reference to the obtaining of horses by Southwestern Indians.	1629	Father Benavides established a mission at Santa Clara adjoining the Navajo country in an attempt to convert them to Christianity (Hodge, <i>et al.</i> , 1945, p. 310).
1598	Onate assigned Father Alonso de Lugo to the Jemez and all the Apades (sic) and Cocoyes of its sierras and neighborhood (Forbes, 1960, p. 80). This is the first assignment of a Spanish priest to the Apaches.	1630-80	Navajos obtained horses and sheep (Bartlett, 1932, pp. 29-30). The exact time that these important traits were acquired by the Navajos is not known. Raiding was probably the primary way they were obtained.
1608	Viceroy Velasco ordered a number of armed soldiers to put down the Apaches who were killing people and stealing horses (Hammond and Rey, 1953, p. 1059). It is possible that some of these Apaches were Navajos, as the term Navajo was not used (in any preserved document) until 20 years later.	1639	Navajos attacked Jemez and killed Fray Diego de San Lucas (Hodge, <i>et al.</i> , 1945, p. 277).
1614	Jemez Indians with some Apaches (Navajos?) killed a Cochiti Indian (Reiter, 1938, p. 29).	1641-42	The Spanish attacked the Apaches (Navajos) and forced them to accept peace (Forbes, 1960, p. 136). Schroeder (personal communication) states this occurred near Zuni and the people were Apaches.
1622	Navajos raided Jemez Pueblo, causing it to be abandoned (Amsden, 1932, p. 200). This abandonment must have been of short duration; Scholes (1936, pp. 145-146) states the Navajo raided Jemez between 1623-26. Forbes (1960, p. 115) considers this reference to be inaccurate. Instead, between 1623-26, he believes the Navajos and Jemez were at peace.	1649	Throughout this year the Navajos and Apaches kept the pueblo and frontier of the Jemez in continual unrest, and the Europeans had difficulty in maintaining the church there (Forbes, 1960, p. 144).
1626	Father Zarate Salmeron first mentioned the Navajos in a written document as "Apaches del Nabaxu" (Lummis, 1900, p. 183). At this time the Navajos were living on the upper Chama River northwest of Santa Clara (Bartlett, 1932, p. 29). The name Nabaxu is taken from a Tanoan name for a place on the Rio Grande where a group were farming. The Spanish translation was "sementares grandes" or wide planted fields.	1650	Some of the Pueblo Indians turned over horses of the Spanish to the Apaches (Navajos?) as a revolt was planned. The Spanish discovered the plot and the Pueblo leaders were hanged (Forbes, 1960, p. 144).
1628	Fray Pedro de Ortega baptised Quinia and Manases, Apache (Navajo?) chieftains who lived fifty leagues from Santa Clara and west of the Rio Del Norte (Rio Grande) (Hodge, <i>et al.</i> , 1945, pp. 89-90).	1653	Navajos raided Jemez and the Spanish retaliated with a punitive expedition (Worcester, 1947, p. 66a).
		1659	A Spanish expedition went into the Navajo province to acquire slaves. Also in this year, as a result of famine, the Apaches came into the pueblos to sell their children into slavery. The Spanish took advantage of this to seize men, women, and children alike (Forbes, 1960, p. 151).
		1663	Athapascans were forbidden by the Spanish to trade with the Pueblos (Forbes, 1960, p. 161).

Date	Event	Date	Event
1666-71	There was a great famine in New Mexico which contributed to a rise of hostilities (Forbes, 1960, p. 161). Navajos attacked Hawikuh (1672) and killed the Spanish priest (Hodge, 1937, pp. 98-101). Some references state that Hawikuh was abandoned as a result. This probably was not the case. Bloom and Mitchell (1938, p. 87) state attack on Hawikuh was by Apaches.	1702	Navajos again initiated hostilities, after only four years. Later the same year a Navajo chief visited Taos to seek peace (Reeve, 1958, p. 214; Thomas, 1935, p. 22).
1673, 75, 77, 78, 1679	The Spanish campaigned against the Apaches and Navajos (Forbes, 1960, pp. 168, 171, 173, 175).	1704	Navajos, Utes, and Tewas plotted an attack against the Spanish (Worcester, 1947, p. 98).
1680	Pueblo Indians allied with the Apaches del Acho (Navajos) revolted and drove the Spanish out of New Mexico (Forbes, 1960, pp. 178-180).	1705	Navajos again were at war, but were defeated in the area northwest of Abiquiu (Thomas, 1935, p. 22).
1681	A reconquest attempt by the Spanish under Governor Otermin failed (Hackett and Shelby, 1942, pp. 202-403).	1705	On a punitive expedition to the San Juan River, Roque Madrid found that some Jemez were still living with the Navajos (Hodge, <u>et al.</u> , 1945, p. 278).
1686	Navajos subdued the Cosninas (Havasupai) on the lower Little Colorado River (Worcester, 1947, p. 82). Posadas termed the former "Apacha" and Schroeder (1953, p. 46-47) states these people were actually Yavapai.	1706	Navajos raided San Ildefonso, Santa Clara, and San Juan, and the Spanish sent out a punitive expedition against them (Reeve, 1958, pp. 216-219).
1692	De Vargas returned to New Mexico to seek peace and found that most of the Pueblo Indians had fled to the mountains (Forbes, 1960, pp. 236-243).	1706-43	Twelve witnesses in the Rabal document described the Navajos as living on defensive mesa tops in circular stone houses with cribbed roofs, raising corn, having horses and sheep, and carrying on much trade with the Pueblos. The area of Navajo occupation is described as being located thirty leagues (seventy-five miles) west of Jemez, from there to the San Juan River and east to a point forty leagues (one hundred miles) west of the town of Chama. The Navajo population was stated to be 2,000 to 4,000 (Hill, 1940, p. 396).
1692	Navajos were allied with the Hopis, Jemez, and Acomas against the Spanish (Forbes, 1960, p. 238).	1708-10	Navajos frequently raided the Spanish towns during these years. The Spanish sent out five punitive expeditions against them in the year of 1709 (Thomas, 1935, p. 23; Reeve, 1958, p. 225).
1693	The Navajos murdered a boy and stole some horses in Santa Fe (Espinosa, 1934, p. 147-148).	1714	
1693-94	The Taos, Picuris, Apaches of the Colorado River, Jemez, Cochiti, and Navajos were united against the Spanish (Bailey, 1940, pp. 98, 130, 161).	1716	Cristobal de la Serna led an expedition against the Navajos (Reeve, 1958, p. 229).
1694	Zia was attacked by the Jemez, Cochiti and Apaches (probably Navajos) (Bailey, 1940, p. 161).	1720-50	This was a period of peace between the Navajos and Spanish (Worcester, 1947, p. 115). Reeve (1959) extends this peaceful interval to 1770.
1695	Most of the Rio Grande Pueblos had been defeated and the Spanish priests were returning to the pueblos. The Acomas, Zunis, Hopis and Athapascans remained unconquered (Forbes, 1960, p. 258).	1724	The Jicarillas threatened (the Spanish) to join the Navajos as protection against the Utes and Comanches (Thomas, 1935, p. 208).
1680-96	Pueblos and Navajos were again united in rebellion. As a result of their defeat at the hands of the Spanish, various groups of Pueblo Indians, including some from San Cristobal, Pecos, Santa Clara, Jemez, and Cochiti, fled to the Navajo country (Forbes, 1960, pp. 263-273). This event is the most important cause of Navajo-Pueblo acculturation. The Black Sheep and Coyote Pass clans date from this period and represent refugees from San Felipe and Jemez (Van Valkenburgh and McPhee, 1938, pp. 4-5).	1744	The first Navajos were converted to Christianity. Two priests entered the Navajo province and converted 5,000 to the faith (Hackett, 1937, p. 416). This number would appear to be somewhat overzealous as there probably were not that many Navajos at this time.
1697	Navajos were reported to be making journeys to Quivira (the western plains) to raid the French and Pawnee (Thomas, 1935, p. 13). This statement is in dispute (Reeve, 1958, p. 212, footnote).	1746	Five hundred Navajos were converted to Christianity at Cebolleta (Hackett, 1937, p. 421). This again may be an overestimate.
1698	Peace returned to New Mexico (Forbes, 1960, p. 274).	1748	The Navajos, suffering from a drought, were amenable to the missionaries' suggestion that they move south to the Cebolleta region (Reeve, 1959, p. 20).
1698	Navajos raided the Pawnee and destroyed three rancherias and a fortified place (Thomas, 1935, p. 14).	1749	Navajos requested Spanish protection against the Utes (Reeve, 1959, p. 24).
1699	The Spanish united with some Navajos to attempt to subdue the Hopis (Worcester, 1947, p. 88).	1749	Missions were established at Cebolleta and Encinal (Hackett, 1937, p. 28).
		1750	Navajos petitioned the Spanish to let them establish a pueblo at Cubero but their request was denied (Worcester, 1947, p. 130).

Date	Event	Date	Event.
1750	Navajos drove out the missionaries at Cebolleta and Encinal and the missions were abandoned (Hackett, 1937, p.292, pp.432-434). This represents the Navajo refusal to accept Christianity, and to be reduced to live in pueblos. There were no serious efforts to convert the Navajos after this.	1786	De Anza met with the Navajos in council at Bado del Piedra and they agreed to peace terms (Thomas, 1932, pp.51-52).
1752	Utes attacked the Navajos and began to force them to the south (Reeve, 1960, p.201). This Ute pressure seems to have been important in causing the Navajos to move south but an additional cause was the drought of 1748.	1786	At this time the Navajos were said to consist of 700 families of four to five persons each. The tribe was divided into five groups and had a total of 1,000 warriors, 500 horses, 600 mares with young, 700 black ewes, and 40 cows with bulls and calves (Thomas, 1932, p.53). The five divisions were: San Mateo, Cebolleta, the Chuska Mountains, Ojo del Oso (the present Fort Wingate), and Canyon de Chelly (Bartlett, 1932, p.31). The archaeological data corroborates these geographic divisions to some degree.
1753-54	Utes forced the Navajos to abandon much of their province and move to the de Chelly area and Cebolleta (Reeve, 1959, p.20). This probably refers to Cebolleta Mountain (see footnote in reference cited).	1786	Trade between the Navajos, Pueblos, and Spanish was encouraged and regulated by the Spanish (Thomas, 1932, p.54).
1753-68	This was the period of establishment of Spanish Land Grants in the area between the Rio Puerco and San Mateo (Mt. Taylor). Several of these grants encroached on Navajo lands (Reeve, 1959, pp.30-38).	1786	During this period of war with the Apaches, the Spanish kept two interpreters with the Navajo chiefs as an aid in conveying the orders of the Spanish Lieutenant (Thomas, 1932, pp.335-343). The Navajo chiefs were paid a salary by the Spanish during the Apache campaigns (Thomas, 1932, p.353). This type of contact is interesting data for the analysis of Navajo-Spanish acculturation.
1770's	As a result of Ute pressure the Navajos began to raid again (Worcester, 1947, p.143).	1786	Some Navajos were included in an Apache raid on Arizpe, Sonora (Thomas, 1932, p.344). This item reveals the distances involved in raiding. Unfortunately this reference is not completely substantiated.
1774	Navajos and Apaches forced the Spanish to abandon the Rio Puerco and Cebolleta land grants (Reeve, 1960, p.209-210).	1786	The Spanish requested the friendly Navajos to use force of arms to subdue the warlike Navajos (Thomas, 1932, p.353). This divide-and-conquer policy was dominant during de Anza's term as governor.
1774	Navajos attacked Laguna and Zia. Two punitive expeditions were sent against them by the Spanish from the jurisdiction of Albuquerque (Reeve, 1960, pp.206-207).	1787	A few Navajos raided Abiquiu and Rio Abajo (Reeve, 1960, p.230).
1775	Navajo chiefs came in peace to Laguna and Santa Fe for the exchange of captives (Reeve, 1960, p.213).	1788	Spanish, with Apache help, raided the Gila Apaches (Reeve, 1960, p.232). Again evidence of the divide-and-conquer policy.
1775-80	This was another period of peace (Reeve, 1960, p.213).	1792	Utes and Navajos raided a Comanche buffalo camp on the plains (Reeve, 1960, p.234).
1776	The Dominquez and Escalante expedition traveled around the entire perimeter of the Navajo country (Auerbach, 1943; Harrington, 1940, p.515). As a result, the map made by Miera y Pacheco is the most accurate map of the Navajo province to that date.	1793	Gila Apaches raided the Navajos and killed Antonio El Pinto, the primary Navajo chief (Reeve, 1960, p.234).
1777	The Gila Apaches and Navajos formed an alliance (Worcester, 1947, p.160).	1796	A Navajo uprising and alliance with the Gila Apaches was reported (Twitchell, 1914, no.1366).
1780	Navajos, again at war, attacked Acoma (Reeve, 1960, p.217).	1796	Cordero states there were ten Navajo settlements: Sevolleta, Chacoli, Guadalupe, Cerro-Cabezon, Agua Salada, Cerro Chato, Chusca, Tunicha, Chella, and Carrizo (Matson and Schroeder, 1955, p.356).
1780	Forty Hopi families fled to the Navajos, who killed the men and took the women and children prisoners (Thomas, 1932, pp. 29, 232). This seems to have been a typical Navajo method of augmenting their numbers.	1800	A Spanish expedition to Tunicha (near the Chuska Mountains) resulted in the Navajos asking for peace (Twitchell, 1914, no.1492).
1783	Navajos raided the Queres pueblos and the Abiquiu area (Reeve, 1960, p.218).	1804	Navajo hostilities were again reported at Jemez, Laguna, and Cebolleta, and Lieutenant Narbona was ordered to pursue the Navajos (Twitchell, 1914, nos. 1712, 1730, 1767).
1784-85	The Spanish under de Anza succeeded in breaking the Navajo-Gila Apache alliance (Reeve, 1960, p.218). After this, the Navajos were united with the Spanish against the Apaches.	1805	Lieutenant Narbona defeated the Navajos in Canyon de Chelly and the Spanish and Navajos agreed to terms of peace (Twitchell, 1914, nos. 1792, 1828).
ca. 1785	De Anza attempted to establish a mission among the Navajos (Thomas, 1932, p.374). This effort was not successful.		
1785	The Spanish forbade the Navajos to cross south of the San Jose River, the boundary between them and the Gila Apaches (Thomas, 1932, p.259).		With the peace agreement of 1805, the Navajos ceased to be of much interest to the Spanish during the remainder of their rule in New Mexico. As a result, this seems to be an appropriate point to end this summary of events.

## Discussion

Any study of Navajo history is hampered by the lack of the term "Navajo" in the historical documents prior to 1626. This circumstance could be due to several causes: (1) the Navajos were not living in New Mexico prior to this time; (2) the Spanish did not contact the Navajos prior to this; (3) the term "Navajo" originated about 1600. Before this they were known as Apaches or Querechos. The latter seems most reasonable as the "Querechos" encountered by Coronado in 1541 were likely a group of Plains Apaches and "Apaches" in various localities are frequently mentioned by the Spanish after this date. Jack Forbes (1960, pp.281-285) strongly advocates the hypothesis that the Southern Athapascans have been in the Southwest since 1400. This hypothesis cannot be verified until more is known of Southern Athapaskan archaeology. However, the historical documents do indicate that there were Apaches, some of whom probably were Navajos, living in New Mexico at least as early as the late 1500's.

After contact between the Spanish and Navajos became common, the following facts are evidenced by the documents:

1. The Spanish were not particularly interested in describing or preserving Indian culture, but were interested in establishing the policies of the "encomiando" (a grant of land to a Spanish settler which included the Indians on that land as a labor force), "reduction" (the enforced settling of Indians into towns where they might more easily be governed), and conversion to Christianity.

2. The Navajos lived on the frontier of Spanish influence. As a result, direct contact between the Spanish and Navajos was infrequent.

3. The primary contacts between Navajos and Spanish were those of intermittent warfare.

4. The Navajos were very resistant to conversion to Christianity.

5. Livestock stealing may have begun as early as the 1590's.

6. At one time or another the Navajos were either allied with or fighting all of the Puebloan tribes, Utes, Comanches, Gila Apaches, and Spanish.

7. Between 1626 and 1805, the Navajos lived within an area bounded by the Chama River, Rio Puerco, San Jose River, Hopi Mesas, and the San Juan River. During this period there were successive migrations to the southern and western portions of this area.

## FUNCTIONAL RECONSTRUCTION OF EARLY NAVAJO CULTURE BASED ON HISTORICAL DOCUMENTS

1582-1824

### Introduction

The Spanish were little concerned with native Indian culture. On the contrary, they were interested in colonial policies which frequently resulted in destruction of elements of these cultures. Still, they occasionally referred to things they had observed concerning the Indians, and a number of these isolated references can be combined to depict the nature of early Navajo culture.

### Settlement Pattern

The habitation units utilized by the Navajos are not well described by the Spanish. Mention is made of the fact that in 1706 the Navajos lived in houses built of stone, timbers, and mud on top of the mesas (Reeve, 1958, pp.218-219).

Roque Madrid, in 1705, located a number of Navajos farming on the San Juan River.

When he attacked them, a running fight developed and they retreated to the south for several days before taking refuge in a fortified site on a mesa top, which suggests that the fortified sites may have been only intermittently occupied (Worcester, 1947, p. 103-104).

In 1786 they were described as living in sod huts (Thomas, 1932, p. 348) and in 1788 ten stone towers were reported (Twitchell, 1914, no. 1022). Troncoso described a hogan in 1788 as "like a field tent, except that it had a small, square room at the entrance" (Worcester, 1947, p. 220). Both of these types of structures are known archaeologically (Keur, 1941, pp. 22-24; Keur, 1944), and the forked stick style of hogan is still built today.

The typical Navajo settlement is termed a "rancheria". Troncoso, in 1788, described Antonio el Pinto's rancheria as consisting of five hogans and a ramada (Worcester, 1947, pp. 219-220).

#### Subsistence

The major economic patterns are indicated by numerous references to agriculture, herding, trade, and warfare. Hunting and manufacturing are only mentioned because they produced buckskin and other trade articles.

#### AGRICULTURE

Nothing is known of Navajo agriculture prior to 1705-06, when they are described as planting fields of seasonal crops, including corn, beans, squash, chile, cotton, pumpkins, and watermelons. Some control of water is indicated; they stored water behind sand dikes, and in one instance irrigated a field from a spring, although most agriculture is described as dry farming. They also used wooden implements for cultivation (Hackett, 1937, pp. 226-227). By 1785, they were raising domestic fruits (Thomas, 1932, p. 265). In 1805 they were planting along the stream in Canyon de Chelly (Twitchell, 1914, no. 1792) and in 1812 were using hoes of both oak and iron obtained from the Spanish (Carroll and Haggard, 1942, p. 132). The description of Navajo agriculture in 1824 (Van Valkenburgh and McPhee, 1938, p. 7) shows little change

from earlier accounts, the only difference being that cultivation of tobacco is mentioned.

The pattern of agriculture seems consistent throughout the 18th century, except for the adoption of iron implements and the addition of European crops.

#### HERDING

The references to herding by the Navajos are similar to those for agriculture. As early as 1706 they kept flocks of sheep for their wool and had goats, horses, and cattle (Hill, 1940, p. 396). The numerical references are scant but in 1743 one witness testified that the Navajos had about 700 sheep (Hill, 1940, p. 407) and in 1786 they were reported to have 500 horses, 600 mares with young, 700 blackewes, and 40 cows with bulls and calves (Thomas, 1932, p. 53). There is no mention of corrals, who did the herding, or other cultural information.

#### HUNTING

The Querechos brought game animals, deer, and rabbits, plus tanned skins to Acoma to trade in 1582 (Worcester, 1947, p. 44). It is not possible to determine if these were Navajo or not. At a later date, witnesses in the Rabal document (Hill, 1940, p. 396-397) testified that a common item of trade, between 1706 and 1743, was buckskin clothing. Hunting by the Navajos is not indicated except in this offhand fashion. However, if buckskin were a common item of trade, the meat probably formed a sizable portion of the native diet.

#### TRADE

Vigorous trade appears to have been carried on between the Spanish, Pueblos, and Apaches at least as early as the end of the 16th century. The first statement of trade is by Espejo in 1582. He describes trade between the Querechos and Acoma with the former trading salt, deer, rabbits, and tanned skins for cotton mantas and other articles (Worcester, 1947, p. 44). A trade fair was established at Santa Clara in 1620 and became an annual event (Worcester, 1947, p.

139). The Spanish, interested in personal enrichment, established rules of exchange and prices for these fairs (Thomas, 1932, pp.338,356). The acquiring of Spanish items by the Indians was through gifts distributed by the missionaries and Spanish governors and through barter. As early as 1629 such items as hawk's bells, beads, hatchets, and knives were distributed at Hopi (Worcester, 1947, p.52; Hodge, *et al*, 1945, p.217). A comment was made in 1632 that the convents were turned into trading posts, with knives being traded for hides (Scholes, 1936, p.285). Bayeta was probably traded to the Indians as early as 1690 (Worcester, 1947, p.239). Items distributed by the Spanish between 1745 and 1789 include rosaries, beads, necklaces, ribbon, Christian relics, hoes, picks, needles, tobacco, scarlet cloth, bayeta, long sheathed knives, bridles, indigo, cochineal, orange dye, hatchets, wedges, machetes, belduques (belt knives), mules, mares, horses, cows, sheep, and clothing (Reeve, 1959, pp.15-16); Thomas, 1932, pp.48, 269, 356; Reeve, 1960, p.233; Hackett, 1937, pp.30, 433-444; Worcester, 1947, pp.139, 243). These items were "given" by the Spanish. There is no mention of any repayment by the Indians in labor or goods. However, there are references to the fact that at times the Indians were forced to trade corn, cattle and deer hides for glass beads, knives, relics, awls, and tobacco (Hackett, 1937, pp.426-427).

As reported for the period 1706-1743, in the Rabal document (Hill, 1940, p.397), the major items traded by the Navajo were baskets, buckskin, and wool cloth. Navajo weaving became such an important item of commerce that in 1812 the Navajo wool products were described as "the most valuable in our province (New Mexico), Sonora, and Chihuahua " (Carroll and Haggard, 1942, p.133).

It is apparent the Apachean groups and the Pueblos traded as early as 1582 and probably before the Spanish entrada. By 1620 there was ample opportunity for the Navajos to obtain Spanish trade goods.

## WARFARE

Analysis of the raiding practiced by the Navajos has been thoroughly presented by Schroeder, (1960). It is sufficient to note here that warfare was a major economic pursuit of the Navajos during the Spanish Period. The documents are full of references to Navajo raids and the subsequent Spanish punitive expeditions. The earliest account is that of Espejo (1582-83) who describes hostilities with the Querechos (Hammond and Rey, 1929, pp.112-114). Again in 1608 the Apaches are reported to have been killing people and stealing horses (Hammond and Rey, 1953, p.1059) and in 1622 we have the first specific mention of "Navajos" raiding Jemez (Amsden, 1932, p.200). From 1622 to 1805 there are Navajo outbursts of violence at intervals of from one to twenty years. Jack Forbes (1960, pp.282-285) has tendered the hypothesis that this warlike character of the Navajos was a direct result of Spanish pressures, one of which was slave raiding. This may very well be the case; of interest at this point is the degree of economic gain afforded the Navajos through warfare. The general character of the references to Navajo raids suggests that the primary purpose of these raids was to secure livestock (Twitchell, 1914, nos. 199, 1730; Reeve, 1960, pp.208-209). The average number of stock taken was from one to a dozen head. In one instance a Navajo chief, Segundo, came into Laguna stating that his people had no food. This statement may be correlated with a diary of numerous Navajo raids reported for that same month of 1804 (Twitchell, 1914, no.1730). Schroeder's research clearly indicates that the Navajos were willing to travel great distances from the western Great Plains to Sonora in order to raid. At one time or another during the 17th and 18th centuries they raided practically every Indian tribe and Spanish town in the Southwest.

Nicolas de la Fora in 1776 stated the Navajos used horses in warfare and that their arms included the bow and arrow, lances, guns, and leather jackets (Worcester, 1947, p.159). These leather jackets were probably similar to the buckskin shirts described by Hill (1936, p.9).

With the exception of livestock, specific items taken by the Navajos in raids are rarely mentioned in the documents. In 1699 they raided the French and Pawnee and obtained slaves, jewels, carbines, cannons, powder flasks, gamellas (a type of wooden bowl or trough), sword belts, waistcoats, shoes, and small brass pots (Thomas, 1935, pp. 13-14). In 1709 they took the religious items from the church at Jemez (Reeve, 1958, p. 225).

Inferences drawn from the documentary evidence concerning raids are: (1) acquisition of livestock was the primary aim of Navajo raids; (2) the Navajos probably were not too successful in animal husbandry during the 17th and 18th centuries, with the result that throughout this period there was a shortage of horses and food animals; (3) acquisition of other items such as slaves and trade goods were of secondary importance.

#### Preparation of Food

The preparation of native foods is discussed briefly with an account of women grinding wheat and cornmeal in 1788 (Worcester, 1947, p. 225). The earliest reference to a specific food is an account of Navajos and Spanish, who were traveling together in 1743, taking tortillas with them as food supply (Hill, 1940, p. 407). Since the event occurred in the Navajo country, it is probable that the tortillas were made by Navajo women. In 1788 when Troncoso visited the family of Antonio el Pinto he observed boiled milk, a paste of roasted corn and nut-ton, a stew, guallaves or guayabas (a type of fruit), panocha dulce (sweet bread, or if this reads panoja dulce in the original, it would be translated sweet corn), corn meal gruel, and tortillas (Worcester, 1947, pp. 220-225). Storage of foods was underground in cuescomates or corn bins (Hill, 1940, p. 415).

#### Manufacturing Techniques

This is a topic ignored by history. The Navajos are described as weaving clothing of

cotton and wool, weaving bridles of tanned leather, making baskets and buckskin clothing, but the techniques of manufacture are not given. Troncoso (1788) relates that the women did the weaving (Worcester, 1947, p. 225).

#### Dress and Ornament

The earliest account of dress, dated 1686, claims that the Apaches always used shoes, boots, and woolen cloth (Worcester, 1947, p. 83). The witnesses in the Rabal document (1706-43) testified that Navajo men were dressed in buckskin and the women wore the Pueblo style black woolen dress. Woolen blankets were presumably worn by both sexes (Hill, 1940, p. 398). In 1776 the Navajo chiefs were described as rarely being seen without silver jewelry (Van Valkenburgh and McPhee, 1938, p. 6). Troncoso (1788) described the men's dress as trousers, hose, shoes, and printed cotton. Ornaments were of coral, glass beads, and shells. The women combed their hair daily and dressed it like the Spanish women in a molote (a name for the style of hairdress) formed on heavy woolen cloth or red flannel. They wore two mantas of black wool with a colored border in the form of a shirt, and petticoats. The arms were bare (Worcester, 1947, p. 224).

A good description is given of Navajo dress in 1824 (Van Valkenburgh and McPhee, 1938, p. 7). "A chief...wore shoes, fine woolen stockings, small clothes connected at the sides by silver buttons of a seam, a hunting shirt and a scarlet cap, the folds of which were also secured with silver buttons. The woman's costume included a black dress with a red border at the bottom sometimes in a figured design and a large shawl of the same material and color. Different modes of hair dress indicated if a woman were single, lately married, or a matron." Unfortunately, the description gives little indication as to whether these garments were of Navajo, Pueblo, or Spanish manufacture.

An interpretive summary of the above is that by the late 17th or early 18th century Navajo women had adopted Puebloan dress, with the men wearing buckskin clothing. By

the early 19th century the men wore much European dress while the women continued the Puebloan style. Silver ornaments appear to have been popular for approximately 100 years before the Navajos began to manufacture their own silver jewelry.

#### Religion

The only religion considered by the Spanish in the documents is the Catholic. The Indian religions were considered pagan or heathen rites and are not described. There is one statement that a Spanish punitive expedition in 1653 surprised some Navajos in a native ceremonial (Worcester, 1947, p. 66a). There is an additional account (1696) of "grand bayles" held by Navajos in conjunction with Faraones (Mescalero Apaches) (Twitchell, 1914, no. 193). The latter was presumably a religious ceremony, unfortunately not described. The fact that this was a joint Apache-Navajo ceremony is of extreme interest.

The efforts of the priests in converting Navajos to Christianity were largely ineffective. In 1629, Fathers Munoz and Romero went to baptise the Apaches of Quinia and Manases (who possibly may have been Navajos), but this missionary effort was short lived as Quinia attempted to take the priest's life and the log mission was abandoned (Bloom, 1933, p. 226). In 1627 Father Benavides established a mission at Santa Clara in an attempt to convert the Navajos (Bartlett, 1932, p. 29). He evidently was not successful. The next serious attempt at conversion was in the period 1745-50. Priests went into the Navajo country in 1745 and reported converting 5,000, probably an exaggerated estimate (Hackett, 1937, p. 416). In 1750 missions were established at Cebolleta and Encinal but this effort was also short lived. The Navajos revolted and drove out the missionaries within the year, stating that they did not want to live in pueblos nor had they ever asked for the fathers. They said that they had agreed to become Christian only so that they might obtain mules, mares, horses, cows, sheep, and clothing (Hackett, 1937, pp. 433-434). As a result the Navajos retained their native religion, the content of which, unfortunately, is not a matter of historical record.

#### Social Structure

Details of social structure, in an anthropological sense, are rarely mentioned in the documents. However, there are some clues to the nature of the family and the ethnic composition and demography of the tribe.

Details of the composition of the individual Navajo family are as follows: Benavides, in 1630, mentions that a Navajo man could have as many wives as he could support (Vogt, 1961, p. 292). In 1788 Troncoso described the rancheria of Antonio el Pinto's mother as consisting of five hogans wherein lived his parents and brothers (Worcester, 1947, p. 219). This would appear to be an extended family with matrilocal residence. However, in one account of 1804, a rancheria contained two warriors, a woman, and a child (Twitchell, 1914, No 1778). This is a specific instance and can only be slightly indicative of a general pattern, but it probably was a nuclear family that the Spanish encountered on this occasion.

Numerous Puebloan groups fled to take refuge with the Navajos in 1696 as a result of their defeat when de Vargas reconquered New Mexico. These included: Indians of San Cristobal, Pecos, Santa Clara, Jemez, and Cochiti (Forbes, 1960, pp. 263-273). In 1705 many of these Puebloan peoples were still residing with the Navajos (Hodge, *et al.*, 1945, p. 278). Between 1706-43 the Rabal witnesses estimated that there were between 2,000 and 4,000 Navajos (Hill, 1940, p. 396). The statement was made in 1760 that "the Christian Indians are so intermingled with the many heathen that they are almost indistinguishable." (Hackett, 1937, p. 474). In 1780, forty families of refugees from Hopi fled to the Navajos, who killed the men and took the women and children prisoners (Thomas, 1932, p. 232). A description dating from 1786 states that there were five geographic divisions of the Navajos: San Mateo, Cebolleta, the Chuska Mountains, Ojo del Oso, and Canyon de Chelly (Bartlett, 1932, p. 31). Within these five divisions there were 700 families of four to five persons each; of this total, 1,000 were warriors (Thomas, 1932, p. 53). Cordero's description of the Navajos (1796) lists ten Navajo communities (Matson and Shroeder, 1957, p. 356).

One other item of interest is the mention of the Navajo chiefs who were given gifts by the Spanish in return for their friendship and aid in Spanish campaigns (Thomas, 1932, p.47). The pattern probably was an aboriginal one of headmen who led war parties. Contact with the Spanish resulted in the concentration of more power in these leaders. In 1780 the Navajos appointed one supreme chief to deal with the Spanish (Thomas, 1932, p.346).

In summary, the ethnic components of

the Navajo tribe can be seen to have been extremely varied. The period of the 18th century may be characterized as one of great miscegenation and concomitant population increase. By 1786 there were five regional units of Navajo culture. These units may not each have possessed a distinctive culture, but they were distinct enough to be recognized as political entities. Throughout this period the residence pattern and kinship system seems to have been identical to that recorded ethnographically.

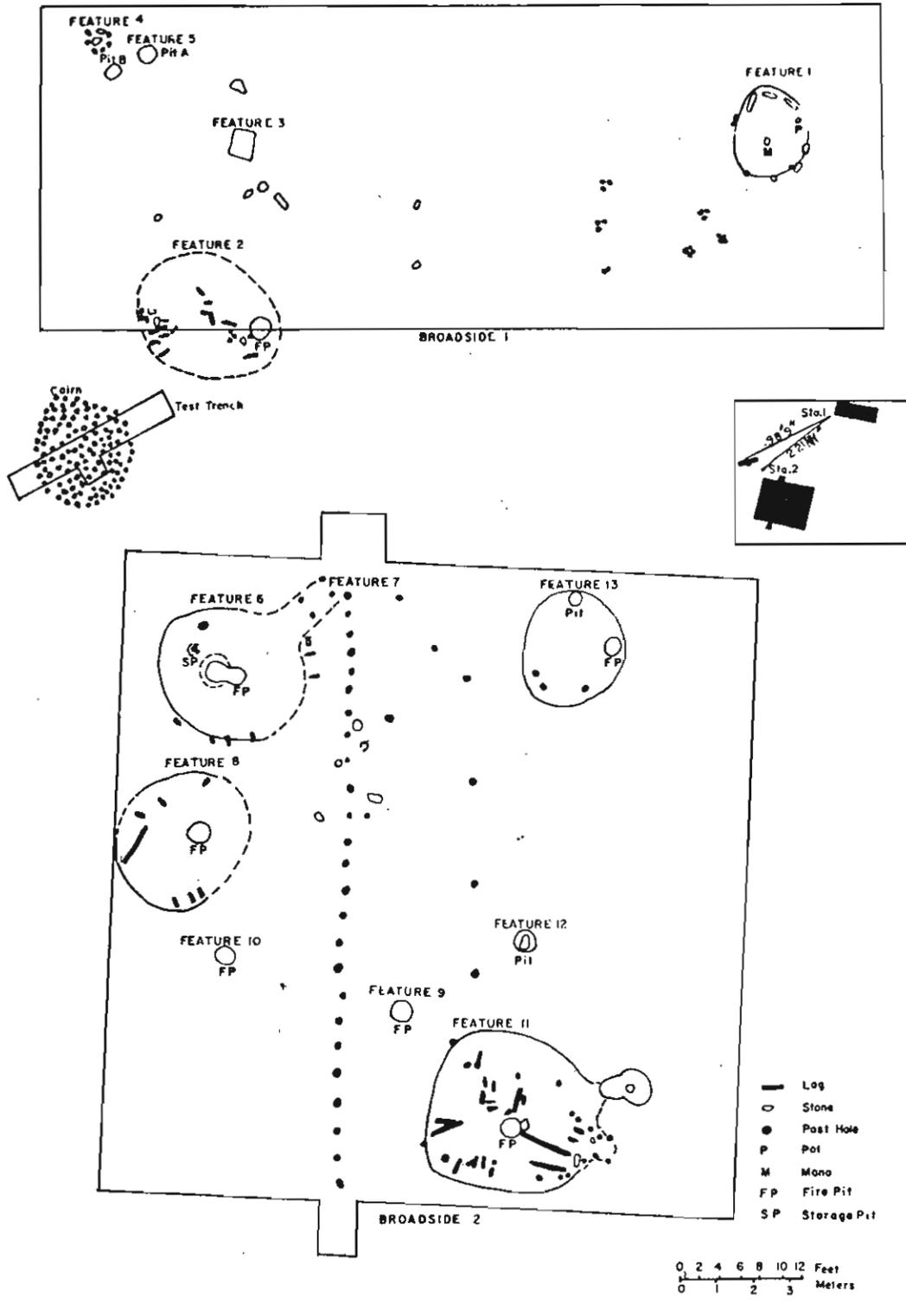


Fig. 4. Site plan illustrating a forked stick hogan village, LA 4199, in the Upper San Juan locality. Feature 1 and cairn are not associated with the Navajo occupation. Site plan courtesy Museum of New Mexico.

material help delineate Navajo culture. An interest in care of the hair and cleanliness of the home is indicated. The meat supply was probably augmented by the trapping of small animals. Gourds were utilized as containers, with a greater use being made of this plant than has been suspected to date. Corn husks were used for a variety of minor purposes. Vegetable parts were chewed for their juices or for fibers. Pahos reveal ceremonial practices. Numerous other artifacts whose use is not identified indicate a broader range of cultural activity than previously known in early Navajo culture.

#### European Trade Goods

Trade items obtained from the Spanish are limited, primarily to ornaments, both secular and religious. Other trade objects include horse trappings, metal tools for wood-working, and ceramics. The musket balls from Massacre Cave are due to military conflict. The nature of these items and their scarcity suggests that contacts between the Spanish and Navajos were limited to sporadic trading and raiding. The validity of this interpretation will be examined in detail in Chapters 10 and 11.

## FUNCTIONAL RECONSTRUCTION OF EARLY NAVAJO CULTURE BASED ON THE ARCHAEOLOGICAL DATA

### Introduction

The writing of a functional reconstruction of early Navajo culture from the study of material objects recovered archaeologically is not easy. Many items are not preserved and of those recovered, much of the functional meaning is lost, as the function of an object is not an observable fact but must be inferred through analogy. The importance of attempting this reconstruction is that, through the use of specific historical analogies, time depth may be achieved in the study of certain trait complexes. These trait complexes and their historical relationships, once described, yield insight into the reasons for the specific composition of the ethnographic culture. A second reason for this reconstruction is that comparison with that attempted from the study of the historical references may lead to an understanding of the differences between archaeological and historical interpretations of culture history.

### Settlement Pattern

The distribution of Navajo sites within the Navajo Reservoir is considered in detail by Dittert, *et al.*, (1961, pp. 238-43). In this locality there are from one to eight forked stick hogans at each of the 170 sites. The site density varied from 1.9 to 20.3 hogans

per square mile. Favored site situations were the Pleistocene benches bordering the San Juan River, which suggests a close relationship between site location and availability of farming land. Rarer types of sites are pueblitos and rock shelters.

In the Gobernador and Largo localities, pueblitos and towers are more common. These structures are situated on mesa tops and other isolated defensive situations. These sites have from one to forty rooms and tend to occupy every inch of available space on the mesa selected. The density of these structures has not been recorded but they are most common in the areas to which the Pueblo Indians fled following the Pueblo Revolt. Frequently pueblitos and forked stick hogans are found in the same site (Fig. 14a), as at Big Bead Mesa. Other areas are too poorly known to yield satisfactory settlement data.

In terms of the Seminars in Archaeology study of community patterning, the Navajos in the localities described above may be referred to two different patterns. The forked stick hogan villages in the Upper San Juan locality may be assigned to a "Semi-Permanent Sedentary" pattern (Beardsley, 1956, pp. 140-1). The large pueblitos in the Gobernador and Largo localities are more typical of a "Simple Nuclear Centered" pattern (Beardsley, 1956, pp. 141-3).

### Subsistence

The early Navajos practiced four major kinds of economies as identified through archaeology: agriculture, wild plant gathering, hunting, and herding. The additional economies of trading and raiding may be inferred from the presence of items of European and Puebloan manufacture.

### AGRICULTURE

Corn, beans, squash, and possibly the bottle gourd were cultivated by the early Navajos. The fields were small because of the limited earth moving capabilities of the wooden implements used; digging stick, plough and hoe. There is no evidence of irrigation. The location of sites suggests that fields were situated in areas where flood water farming could be practiced. Corn and beans were stored in caves, in pottery jars sealed with adobe, for future use either as food or seed.

### GATHERING

Wild plants were probably gathered for food, as seeds of yucca, saltbush, pinyon, and prickly pear have been identified in Navajo sites (Keur, 1941, p. 45). A more elaborate discussion on this subject is presented in Dittert, *et al*, (1961, pp. 34-5).

### HUNTING

The hunting and trapping of animals for food is indicated by the presence of arrows and snares. Animal bones from refuse include: elk, deer, cottontail rabbit, pocket gopher, white throated wood rat, beaver, rock squirrel, silky pocket mouse, deer mouse, meadow vole, spotted skunk, weasel, gray fox, jackrabbit, porcupine, Mexican wood rat, antelope, plus unidentified fish, bird, and reptile remains (Forbes, Richard, 1960; Farmer 1942, p. 74; Keur, 1944, p. 79). Probably not all of these animals were eaten, as some of the smaller animals could have been present in the sites from natural causes.

The most common bones are those of deer, rabbits, wood rats, and rock squirrels.

Hunting techniques revealed by the archaeological remains include: (1) use of simple and compound arrows, possibly for different kinds of game; (2) use of the deer and antelope trap; (3) use of snares for capturing small game.

### HERDING

The presence of corrals, reins, a lariat, and a bridle bit documents the keeping of stock and the riding of horses. Indians on horseback are also portrayed in petroglyphs. At Big Bead Mesa (Keur, 1941, p. 46), sheep were in general use for food, perhaps as much as deer, while horses and cattle were rare. The importance of the flesh of domesticated animals can not be assessed, as quantitative analysis of the food bones has not been attempted for any site to date. The archaeology demonstrates that the Navajo became herders but does not indicate as reliably the importance of this economy. The tree-ring dates from Big Bead Mesa place the utilization of substantial quantities of sheep for food as early as the middle 18th century.

### TRADE AND WARFARE

Items attributable to trade are Puebloan pots, shell ornaments, glass beads, buffalo robes, a copper buckle, copper buttons, hawk bells, and a coin.

These items are limited in quantity, with Puebloan pots, shell ornaments, and glass beads most common. The amount of trade with the Pueblo Indians, as against that with the Spanish, is difficult to assess. The greater distribution of Puebloan trade pottery seems to be indicative of more Navajo trade with that group. The large quantities and variety of the Spanish trade goods from a few burials in the Gobernador locality leaves the impression that Navajo-Spanish trade may have been widespread, but is inadequately documented by archaeology.

The iron axes, iron knife blade, iron scythe, bridle bit, metal crosses, olive jar, porcelain plate, and musket balls probably are due to contact with missionaries or raids. The flattened musket balls are conclusive proof of conflict. Architectural evidence of fortified sites with defensive walls, towers, boulders arranged as missiles, removable ladders, and loopholes indicates a great concern with defense. These defensive structures are of a permanent nature, and are more common than evidences of Navajo offense. Other archaeological information suggesting raids is the presence of bones of domesticated animals, but as discussed above, they may have been bones from Navajo-owned flocks. With the exception of the defensive nature of the sites, which could be interpreted as fear of retaliation, there is little direct evidence to indicate that raiding formed a major interest of the Navajos. Items of material culture possibly acquired in raids are rare and all but the musket balls are types that could have been obtained through trade. The conclusion reached here, that raiding formed a minor portion of the Navajo economy, is in contrast to the historical view of early Navajo raiding.

#### Preparation of Food

The mano, metate, and mealing bin were used for the grinding of corn, and perhaps other seeds, into meal. The meal probably was fried into piki bread on the comal. The culinary vessels were probably used for the boiling of beans and stews. The meat-drying rack is indicative of the jerking of meat. Undercut pits were used as fireless cookers for the roasting of meat and vegetables. The kernels of many corn cobs have been removed in an immature state, which suggests a preference for roasting ears. The chewing of plant leaves for the extraction of their juices is inferred from the presence of quids.

#### Manufacturing Techniques

Stone artifacts were manufactured by pressure chipping, percussion flaking, pecking, and abrading. The hammerstone was used in flaking and pecking, antler tools were used for chipping, and sandstone abraders for

smoothing. How much of this manufacturing was done by the Navajos can not be determined. It seems certain that these techniques were known to them and were probably used to some degree, although many of their tools were picked up from prehistoric sites. Wooden implements were fashioned by cutting off a branch with an axe or knife of stone or iron, and shaping with knife and abrader. Pottery was made by coiling and scraping with a corn cob. Bone working was accomplished by transverse sawing, longitudinal splitting, and abrading. Shell ornaments probably were not made by the Navajos. Hides were scraped free of flesh and hair. They were then either tanned or used as rawhide. The sewing of leather was with an awl and sinew thread. There is no evidence of needles. Basketry may have been made with wooden awls. Basketry techniques include close coiling, twining, and wicker work. Sandals were made by twilling. The only evidence of metal working is the abrading of the tang of an iron knife blade. Weaving of cloth was done on the vertical loom, utilizing a plain weave.

#### Dress and Ornament

Knowledge of Navajo dress prior to 1800 is limited due to poor preservation. The only items of dress known are mocassins, a V-necked shirt made from a striped Navajo blanket, and sandals. The women's hair style consisted of tying the hair in a bob at the back of the head with hanks of yarn. Immediately after 1800 men wore leather mocassins, Puebloan kilts and blankets, Navajo blankets, yucca sandals and leather bow-guards. Garments were secured with metal buttons, metal buckles, and possibly bone pins. Buffalo robes and sheep hides were probably used for bedding or worn as cloaks.

Ornamentation was primarily limited to the wearing of multiple strands of beads of shell, glass, and seeds, strung singly or in combination. Pendants of *Glycymeris* sp. shell, and a metal coin were also strung with beads. Ear ornaments include glass pendants, copper buttons, and abalone shell pendants. One basketry pendant may have been worn around the neck. As indicated from burials,

## CHAPTER IX

# EARLY NAVAJO MIGRATIONS

### INTRODUCTION

Two different kinds of data are available concerning the pre-1800 settlement of the Navajos, historical and archaeological. The historical information may be analyzed in terms of references to where the Navajos raided and where they were observed to be living. In addition there are historic maps which record the location of the Navajos at various times. The archaeological information consists of habitation sites with associated pottery and tree-ring dated structures.

#### Early Navajo Raids

References to Navajo raids are common in the historical documents. The Navajos raided all of the Spanish towns and Pueblos between Taos and Albuquerque as early as the end of the 16th century and continued raiding throughout the Spanish Period, with only brief intervals of peace. Schroeder has analyzed the raids in detail in an attempt to determine where the Navajos were raiding. His map (Schroeder, 1960, opp. p. 123) is the most complete analysis of this material to date.

The settlement data derived from the study of raids seems less accurate in locating where the Navajos were living than the other data available. A list of these raids appears in Table XI.

The evidence of Navajo raids permits the following interpretations concerning early Navajo settlement: (1) the Navajo-Spanish frontier was just to the west and north of a line that extended through the outlying Spanish settlements and Pueblos between Taos and Laguna; thence west to Zuni and Hopi; (2) the majority of Navajo raids on the Spanish

towns and the Pueblos probably originated in the upper Largo drainage; (3) the lucrative opportunities offered by the Spanish and Pueblo towns probably concentrated the Navajos along the Navajo-Spanish frontier; (4) the information derived from Navajo raids is oriented with respect to where the Spanish and Pueblo settlements were rather than to where the Navajos were living; and (5) the references to raids near Hopi and Zuni prior to 1700 imply that some Navajos were living closer to these villages than to the main concentration of Navajos on the Largo.

#### Historical Settlement Data

Data as to where the Navajos were living are much more valuable for a settlement pattern study than are references to raids. The Spanish came in contact with the Navajos in their own province numerous times as a result of both peaceful visits and punitive expeditions. A list of these accounts is given in Table XII.

Interpretations based on this evidence are as follows: (1) the Navajos in the 17th century were concentrated in the upper Chama and upper San Juan drainages in New Mexico; (2) beginning in the 17th century and continuing into the 18th century there was a series of population movements to the south and west terminating in the Cebolleta and Canyon de Chelly localities; (3) the major migrations appear to have taken place in the middle 18th century with the upper Chama and upper San Juan drainages being largely abandoned; (4) the southeast boundary of the Navajo province during this period is definitely established. This was the frontier between the Navajos and Spanish described by Governor Cuervo y

TABLE XI

## HISTORICAL REFERENCES TO NAVAJO RAIDS

1582- 1583	Espejo mentions war between Acoma and the Querechos (Hammond and Rey, 1929, p.86). Schroeder (personal communication) believes these were Apaches.	1724	Utes and Navajos raided Jemez (Hodge, <u>et al.</u> , 1945, p.279).
1608	Apaches (Navajos) raided San Gabriel (Hammond and Rey, 1953, p.1059).	1774	The Rio Puerco Land Grants were abandoned due to Navajo and Apache pressure (Reeve, 1960, pp.209-210).
1653- 1656	Navajos raided Jemez (Worcester, 1947, p.66a).	1774	Navajos attacked Laguna and Zia (Reeve, 1960, pp.206-207).
1672	Apaches or Navajos raided Hawikuh and killed the priest (Hodge, <u>et al.</u> , 1945, p.292).	1775	Navajos fought off the Spanish from a fortified site, probably Big Bead Mesa (Reeve, 1960, p.208).
1686	Navajos (Yavapais?) subdued the Cosninas (Havasupai) Worcester, 1947, p.82).	1775	Navajos stole cattle from Santa Clara, Jemez, Zia, San Ildefonso, Abiquiu, and the jurisdiction of Albuquerque (Reeve, 1960, pp.208-209).
1693	Navajos attacked Santa Fe (Espinosa, 1934, p.147-148).	1780	Navajos attacked some Hopi (Thomas, 1932, pp.26-27).
1692- 1703	Navajos threatened Zuni (Bailey, 1940, p.78).	1780	Acoma was attacked by Navajos (Reeve, 1960, p.217).
1693	Navajos and other tribes prepared to fight the Spanish at Cieneguilla (Bailey, 1940, p.98).	1783	Navajos raided the Queres Pueblos and the Abiquiu area (Reeve, 1960, p.217).
1694- 1699	Navajos raided the French and Pawnee on the Plains at least three times (Thomas, 1935, p.13-14).	1786	Navajos, Comanches, and Spanish campaigned against the Gila Apaches (Thomas, 1932, p.320).
1694	Navajos and Cochiti attacked Zia (Reeve, 1958, p.211).	1786	Some Navajos and Gila Apaches raided Arizpe, Sonora (Thomas, 1932, p.344).
1700	Navajos attacked the French on the Plains (Bailey, 1940, p.254).	1787	A few Navajos raided Abiquiu and Rio Abajo (Reeve, 1960, p.230).
1700	Navajo-Comanche hostilities began (Worcester, 1947, p.14).	1788	Spanish with Navajo aid raided the Gila Apaches (Reeve, 1960, p.232).
1706	Some Navajos and Spanish under Governor Cubero attempted to capture Hopi (Worcester, 1947, p.88).	1792	Some Navajos and Utes raided a Comanche buffalo camp (Reeve, 1960, p.234).
1706	Navajos raided San Ildefonso, Santa Clara and San Juan (Reeve, 1958, p.216).	1793	Hostilities were reported between Navajos and Gila Apaches (Thomas, 1932, p.55).
1708- 1710	Navajos raided the Spanish (Thomas, 1935, p.23).	1796	Navajos raided the jurisdiction of Isleta, Laguna, Pecos, and Rio Arriba (Twitchell, 1914, no.1366).
1709	Jemez was raided by the Navajos (Hodge, <u>et al.</u> , 1945, p.279).	1804	Navajos raided Alameda, Rio Arriba, Laguna, Paraje de los Canoncitos, and Jemez (Twitchell, 1914, no.1730).
1713	Navajos stole some livestock from San Ildefonso (Reeve, 1958, p.226-227).		
1714	Jemez was raided by Navajos (Hodge, <u>et al.</u> , 1945, p.279).		

Valdez in 1706. This frontier is in agreement with that determined from the analysis of the raids; (5) the north boundary of the Navajo province is not delineated with the exception of a settlement noted at Carrizo.

## Map Locations of the Navajos

Numerous historic maps of the Spanish possessions in the present United States preserved in the U. S. National Archives make references to the Navajos. A number of photostatic copies of these historic maps, in

the library of the Museum of New Mexico, have been examined in an effort to determine where the Navajos were living at specific periods in the past. A list of these references and the maps on which they appear is presented below. This is not presumed to be an exhaustive list, though it appears that the maps examined are a representative sample. The majority of the following are indexed in Lowery (1912) by page number and Library of Congress catalogue number. Most of the other maps are present in photostatic form in the Museum of New Mexico library. These map locations are summarized in Table XIII.

TABLE XII

## HISTORICAL REFERENCES TO NAVAJO SETTLEMENT

1541	Querechos (probably Plains Apaches) were living seventeen days travel east of Pecos (Hammond and Rey, 1940, p. 186).	1745*	Fray Carlos Delgado visited the Navajos near the head of Largo Canyon (Reeve, 1959, pp. 15-16).
1582*	The Spanish with Espejo had a skirmish with the Querechos (probably Gila Apaches) near Mt. Taylor (Hammond and Rey, 1929, pp. 112-114).	1745*	Fray Carlos Delgado and Fray Jose Yrigoyen visited the Navajos living at the north end of Cebolleta Mountain (Reeve, 1959, p. 17).
1627*	Apaches de Nabahu were living on the Chama River upstream from Santa Clara (Bartlett, 1932, p. 29).	1746*	Navajos colonized Cebolleta (Hodge, <i>et al.</i> , 1945, p. 309).
1628*	The Apaches of Quinia were living fifty leagues from Santa Clara and west of the Rio Grande (Hodge, <i>et al.</i> , 1945, p. 89-91).	1748*	Due to drought the Navajos were amenable to the missionaries' suggestion that they move south to the Cebolleta region (Reeve, 1959, p. 20).
1629*	Hopis summoned some Apaches to help against the Spanish (Hodge, <i>et al.</i> , 1945, p. 217).	1750	Navajos petitioned the Spanish to let them colonize Cubero (Worcester, 1947, p. 130).
1629*	Navajos were one day's journey from Santa Clara (Hodge, <i>et al.</i> , 1945, pp. 86-87).	1750*	The missions established at Cebolleta and Encinal were abandoned the same year (Hackett, 1937, p. 29).
1634	The Apache frontier extended for 100 leagues along the Rio Grande (Hodge, <i>et al.</i> , 1945, p. 91).	1752*	Utes attacked the Navajos and drove them south (Worcester, 1947, p. 136).
1692*	Navajos were one day's journey from Picuris and San Juan (Bailey, 1940, p. 49).	1753-1754*	Utes caused the Navajos to abandon much of their province and to move to Canyon de Chelly and Cebolleta (probably Cebolleta Mountain) (Reeve, 1960, p. 202).
1692*	Hopis mentioned that some Apaches (Navajos) were nearby (Bailey, 1940, p. 85).	1762*	Some Navajos were living west of the Antonio Baca Grant (Reeve, 1959, p. 31).
1696*	Some Pueblo Indians fled to the Apaches of Cebolleta (probably Navajos) (Reeve, 1958, p. 213).	1766*	Navajos were living in the area of the Felipe Tafoya Grant (F.L.O. File C67, pp. 58-59).
1705*	Roque Madrid found some Navajos farming on the San Juan River (Worcester, 1947, pp. 103-104).	1768*	Navajos were living at the south boundary of the Canada de los Alamos Grant (F.L.O. File 172, p. 14).
1706*	Governor Cuervo y Valdez gave the following description of the boundaries of the Navajo province. These boundaries include areas raided which are distinguished from areas occupied on the original map now in the archives in Mexico City. (Hackett, 1937, pp. 381-382).	1768*	Navajos were living at the southeast corner of the San Mateo Spring Grant (F.L.O. File C75, pp. 9-12).
	The extensive province of Navajos is the seat, establishment, and dwelling place of numerous rancherias of heathen Indians of this name. It extends about one hundred leagues from south to north to the boundaries of the numerous nations of Yutas, Carlanas, and Comanches. To the east it begins on our frontiers which describe a semicircle through the following places: El Penasco de las Huellas, the San Antonio, Jara, and Culebra Rivers, the old pueblo of Chama, Embudo de la Piedra Dumbre, the pueblos of Christian Indians of San Juan, Santa Clara, San Ildefonso, San Buenaventura de Cochiti, San Felipe, Santa Ana, Zia, the jurisdiction of the Valle de la Canada, Chimayo, Pecuries, Taos, the post of San Francisco del Bernalillo, the new villa of Albuquerque, San Diego y San Juan de los Xemes, Rio Puerco, Zivolleta / <u>Sevilleta</u> , San Joseph de la Laguna, El Penol de San Estevan de de Acoma, the places of Santa Ana, El Nacimiento, Zuni and Moqui. The line thus extends, from one extreme to the other, about three hundred leagues. Directly to the west, the dividing line is the large river which according to report, flows to the sea.	1769	Navajos were living within the Sitio de Navajo Grant (F.L.O. File 195, p. 52).
		1769	The Navajos did not complain against the Canada de los Apaches Grant (F.L.O. File 15, p. 12).
		1776-1777*	Father Escalante did not meet any Navajos north or west of Oraibi (Auerbach, 1943, pp. 101-107).
		1778	Navajos were still living within the Sitio de Navajo Grant (F.L.O. File 195, p. 57).
		1778*	Navajos were living in the vicinity of the Baltazar Baca Grant (F.L.O. File 178, p. 13).
		1780*	de Anza met some Navajos living on the Rio Puerco ten leagues west of Santa Ana (Thomas, 1932, p. 27, 229).
		1786*	de Anza met with some Navajos at Bado del Piedra for a council of peace (Thomas, 1932, p. 51).
		1786*	The Navajos were in five divisions: San Mateo, Cebolleta, Chuska Mountains, Ojo del Oso, and Canyon de Chelly (Thomas, 1932, p. 53).
1706*	According to the witnesses in the Rabal Document the Navajo area was seventy leagues east-west, and thirty leagues north-south (Hill, 1940, p. 408).	1796	Cordero reports the Navajo had ten settlements: Sevilleta, Chacoli, Guadalupe, Cerro Cabezon, Agua Salada, Cerro Chato, Chusca, Tunicha, Chelle, and Carrizo (Matson and Schroeder, 1957, p. 356).
1706*	Navajos lived from Piedra Lumbre to the San Juan River (Reeve, 1958, p. 217).	1800*	The Spanish proceeded to attack the Navajos at Puerto de Tunicha (Twitchell, 1914, no. 1492).
1706*	Navajos lived forty leagues west of Picuris (Reeve, 1958, pp. 218-219).	1804*	Navajos requested Cebolleta from the Spanish (Twitchell, 1914, no. 1754).
1706*	Navajos retreated to the north end of Cebolleta Mountain (Reeve, 1958, pp. 218-219).	1805*	Narbona defeated the Navajos in Canyon de Chelly (Twitchell, 1914, no. 1792).
1706	The Spanish entered the Navajo country at Las Grullas, thirty leagues northwest of Santa Fe (Reeve, 1958, p. 221).	1805*	The Spanish peace conditions limited the Navajo land rights from the Canyon de Juan Tafoya, Rio del Oso, and San Mateo to the San Juan River (Twitchell, 1914, no. 1801).
1707-1712*	Navajos were thirty leagues north of Jemez (Hill, 1940, pp. 400-402).	1812*	Navajos lived twenty five leagues from the Spanish frontier between Zuni and Hopi (Carroll and Haggard, 1942, p. 133).
1709*	The Navajo province was thirty leagues west of Jemez and forty leagues north-south (Reeve, 1958, p. 225).	1819*	Some Navajos fleeing the Spanish settled near Hopi (Van Valkenburgh and McPhee, 1938, p. 6).
1743*	Navajos expanded to the south and west (Amsden, 1932, p. 206).		
1744*	Navajos lived four day's journey from Jemez (Hackett, 1937, p. 27).		

\* Plotted on Figure 24.

## HISTORIC MAP REFERENCES TO THE EARLY NAVAJO

1656	This map shows "Apaches de Navaio" north of a lake out of which flows the Rio Grande in Colorado. <i>Le Nouveau Mexique, et La Floride</i> por N. Sanson (Lowery, 1912, pp. 147-148, WL 147).	1763	"Apachi Navajentes in longu extensi versus occidentem" shown north of Zuni. <i>Regni Mexicani seu Novae Hispaniae, Ludoviciana, etc.</i> by Johann Baptist Homann in <i>Atlas Geographicus Major</i> (Lowery, 1912, p. 332, WL 473, MNM Library).
1657	"Apaches de Navajox" shown in same position as above. <i>Audience de Guadalajara, Nouveau Mexique, California &amp; C.</i> by N. Sanson (Brayer, 1936, opp. p. 129).	1768	"Provincia de Nawajo" directly west and slightly north of Cerro Pedernal and southeast of Sierra Azul Tan Decantada and northwest of the Hopi villages. <i>Nuevo Mapa Geografico de la America Septentrional Perteneiente al Virreynato de Mexico</i> por D. Josef de Alzate y Ramirez (Lowery, 1912, pp. 349-350, WL 515, MNM Library).
1669	Same as Sanson map of 1656. <i>Amerique Septentrionale</i> por N. Sanson. <i>Geographe Ordre du Roy</i> . Paris. (MNM Library).	1770	"Tierra de los Apaches Navajoes" plotted just west of the Chama River to a point north of Zuni, from Abiquiu north to 40 degrees North Latitude. <i>Plano, corrografico i hidrografico de las provincia de el nuevo mexico, sonora, etc.</i> by Francisco Alvarez Barreiro, (British Museum add. Ms. 17.650b; MNM Library).
ca. 1670	Same as Sanson map of 1656. <i>Map of America</i> by F. de Wit (Wheeler, 1889, p. 509).	1778	"Provincia de Nabajoo" is delineated with a line enclosing the area south of the San Juan River, west of the Continental Divide to the Hopi province and south to the Zuni Mountains. <i>Plano Geografico de la Tierra descubierta, nuevamente, a los Rumbos Norte, Noroeste, y Oeste, del Nuevo Mexico, etc.</i> by Don Bernardo de Miera y Pacheco (Lowery, 1912, p. 390, LC 607; Auerbach, 1943, opp. p. 24; MNM Library).
1700?	"Apaches" north of Hopi and Zuni and west of the Continental Divide at approximately 36 degrees and 30 minutes N. Latitude. <i>Carte du Nouveau Mexique tiree des Relations de Mons'r le Comte de Peñalossa</i> (Lowery, 1912, pp. 200-202, WL 225; Espinosa, 1934, opp. p. 113).	1779	"Tierra de Mesas y frontera de la Provincia de Nabajoo" lettered on an east-west line just north of Zuni and Ojo del Oso (Fort Wingate). <i>Plano de la Provincia interna del Nuevo Mexico etc.</i> by Don Bernardo de Miera y Pacheco (Lowery, 1912, p. 395, No. 619; Thomas, 1932, opp. p. 87; MNM Library).
1701	"Apaches de Navajo" shown just west of the Continental Divide between the latitudes of Santa Fe and Taos. <i>Carte des environs du Mississipi</i> por G. de L' Isle. (Lowery, 1912, pp. 219-221, LC 252; MNM Library).	1782	"Provincia de Nabajoa" outlined in a dotted line. The boundaries extend along the San Juan River from the Piedra River to the La Plata or Mancos River, west to Hopi, south to Acoma, and north to the Chama River. <i>New Mexico by Mascaró</i> -similar to the Miera y Pacheco map of 1778 (MNM Library).
1717	Legend "Apaches de Navaio" extends from west of Hopi almost to the Rio Grande River, latitude north of Hopi at a place called Quaquina and San Hieronimo on the Rio Grande. <i>A map of Mexico or New Spain, Florida now called Louisiana and part of California &amp; C.</i> by H. Moll (Lowery, 1912, p. 237, WL 282).	1795	"Navajo" shown in a small area south of the San Juan River, west of Jemez, east of Ojo del Carrizo, and north of Cubero and Laguna. <i>Mapa Geografico del Gobierno de la Nueva Granada o Nuevo Mexico: con las Provincias de Nabajo y Moqui</i> por D. Juan Lopez de Vargas (Lowery, 1912, pp. 430-431; WL 703; British Museum P 18220 add. 176515; Auerbach, 1943, opp. p. 42; MNM Library).
1720	"Apaches de Navaio" located north of the River of Good Hope, north of Zuni between the Tijon River and the Continental Divide at 36 degrees 30 minutes North Latitude. <i>A New Map of the North Parts of America claimed by France, etc.</i> by H. Moll (Lowery, 1912, p. 250, LC 303; MNM Library).	1799	"Navajo" shown directly west of Santa Fe just west of the Continental Divide. <i>Mapa Geografico de la Pte. de la America Sept. aumentado y corregido</i> por Don Jose Cortes (Lowery, 1912, p. 439; LC 720, MNM Library).
1690-1733?	"Apachi Navajentes in longu extensi versus occidentem" shown north of the Hopi country. <i>Tabula Mexicae et Floridae</i> by Pieter Schenk (Lowery, 1912, p. 186, LC 198).	1811	"Navajoes Inds." plotted east of Hopi and north of Zuni (Humbolt, 1822, map No. II).
ca. 1747	"Provinsa de Navajo" is plotted just north of Oraibi. The title extends from the longitude of Acoma west almost to the Colorado River, which is incorrectly plotted. <i>Travajo Personal que en la Inspecion de esta corta Obra tubo el Ro. De F. Juan Miguel Menchero como Visitador General de la Nueva Mexico y lo dedica a el Exmo. Sr. Dn. Juan Franco. Guemes y orcasitas Virrei Gobernador y Captain General de Nueva Espana para que su Exa. proteja su major Incremento de estas Misiones</i> (Lowery, 1912, p. 296).		

The maps are of limited value, as the boundaries of the Navajo province are seldom outlined and the name of the tribe is all that indicates the tribal location. In addition, many cartographers working in Europe with secondhand information who did not really know where the Navajos were frequently copied earlier maps. In spite of these limitations, it is possible to evaluate the data on the maps as follows: (1) no map prior to 1701 very accurately locates the Navajos; (2) maps made between 1701 and 1770 tend to agree with the other historical references in placing the Navajos west of the Continental Divide, south of the San Juan River, north-

east of the Hopi villages, and north of Zuni, though they are inconsistent in their representation of the positions of the various villages, mountain ranges, and so forth; (3) Miera y Pacheco's map of 1778 appears to be the most accurate map of the Navajo province preserved from the Spanish Period.

The data from settlement references, raids, and the Miera y Pacheco map boundary are plotted on Figure 24, and used for the formulation of Figure 25, the interpretive map depicting early Navajo migrations later in this chapter.

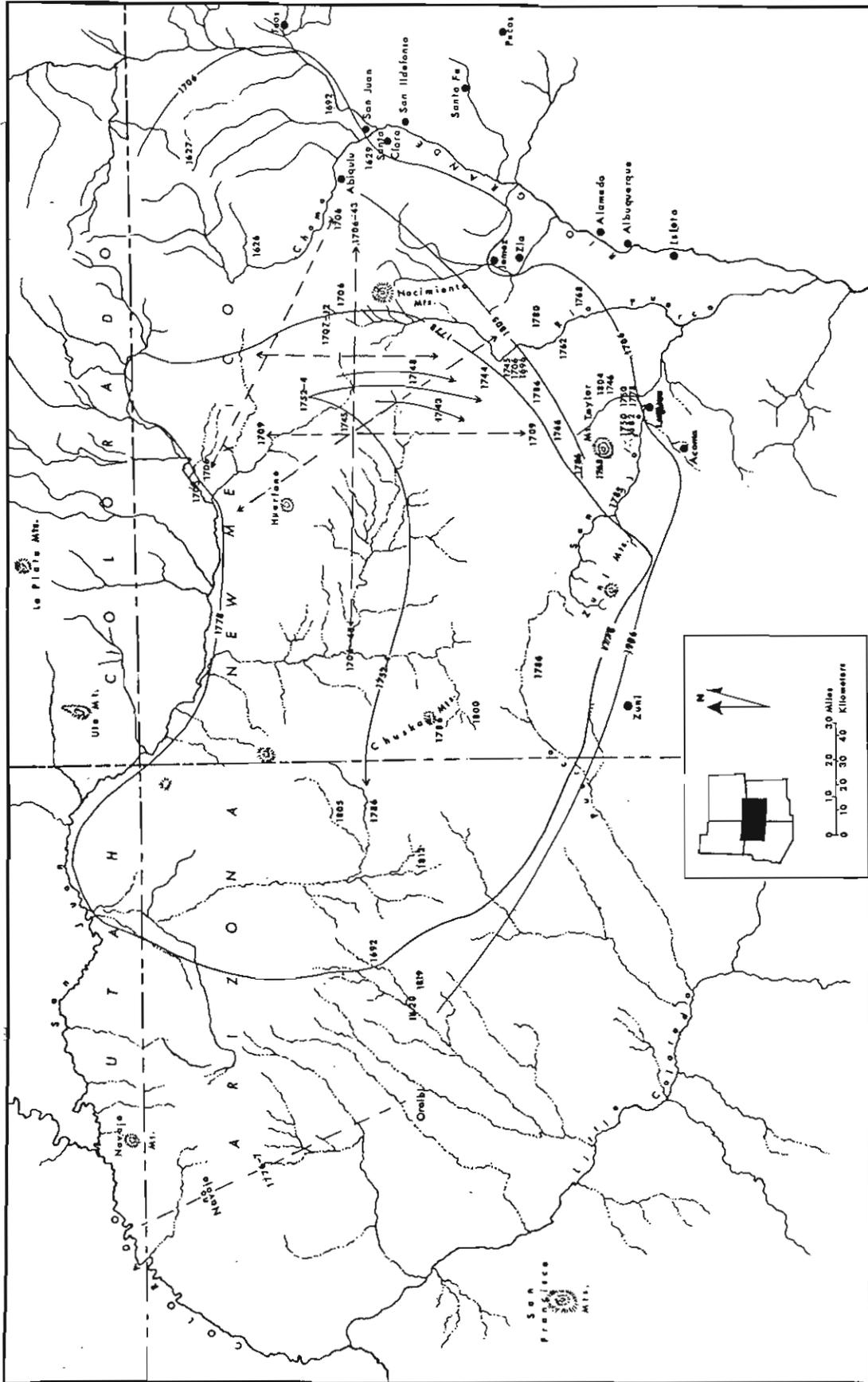


Fig. 24. Location of historical references to Navajo settlement.

## Archaeological Settlement Data

The archaeological information available for early Navajo settlement falls into two categories; sites dated by pottery and sites dated by tree-rings. The only significant group of sites considered in this study still to be dated by dendrochronology is the group of Navajo sites from the Navajo Reservoir. These sites have been assigned to phase as follows: Dinetah Phase - 6, Gobernador Phase - 140, and Indeterminate Navajo - 26 (Dittert, *et al.*, 1961, Fig. 32). In addition to the sites within the Navajo Reservoir, there are two sites recorded in the Laboratory of Anthropology survey (LA 2312 and LA 2314) in Hart Canyon near Aztec, New Mexico. One of these sites possesses Gobernador Polychrome and may be assigned to Gobernador Phase.

These pottery dated sites suggest that the Upper San Juan locality was one of initial settlement of the Navajos with perhaps a slight expansion northwest to the Animas River in southwestern Colorado during Gobernador Phase.

Tree-ring dates are available from the Gobernador, Largo, Chaco, Big Bead Mesa,

Canyon de Chelly, and Hopi localities. The location of these localities is plotted in Fig. 3, and the dates are listed in Table XIV.

These tree-ring dates are too few and are too far apart geographically to form a body of data sufficient to use as a basis for plotting of changes in early Navajo settlement through time; furthermore these dates do not sample the entire area under consideration. In spite of these drawbacks, correlation between the tree-ring dates and the historical references verifies the historical data. These correlations are as follows:

1. The Gobernador and Largo localities possess the earliest known group of Navajo settlements in the Southwest.
2. Navajo settlements to the south and west are later in time.
3. The western boundary of the Navajos between 1700 and 1800 appears to have been at the northeast corner of the Hopi locality.



\* Explanation of symbols used on Table XIV.

- + -outer rings crowded, some absent.
- ++ -outer rings very crowded, probably many absent.
- V -outside eroded, outside ring variable, unknown number of rings lost, if no other symbol.
- VV -outside extremely eroded, outside ring very variable, unknown number of rings lost if no other symbol.
- C -outside ring constant, probably cutting date.
- G -beetle galleries, probably near cutting date.
- L -probably cutting date.
- inc. -incomplete outer ring, tree probably cut during growing season.

## INTERPRETIVE SUMMARY OF EARLY NAVAJO MIGRATIONS

Three different types of information are utilized in this summary: historical, archaeological, and ecological data. The first two have been presented above and the ecological evidence in Chapter 2. The importance of the ecological information lies in the fact that prior to the widespread herding of sheep by the Navajos, they probably were limited to the area of higher annual precipitation characterized by the Pinyon-Juniper belt and the lower border of the Yellow Pine zone. Probably this transition to a major reliance on a pastoral economy did not occur until about 1800.

The interpretive map in Fig. 25 gives the location of the main body of Navajos in terms of isochronic lines plotted at fifty year intervals. This formulation is conservative; changes due to future research probably will result in the inclusion of more area inhabited by the Navajos at each specific time period, rather than less.

### Navajo Settlement Before 1600

The first solid evidence of the location of the Navajos is a hogan on Chacra Mesa firmly dated 1600; before this there are only three tree ring-dates from one site in the Gobernador locality which range from 1491 to 1521, which indicates some settlement in this general "Dinetah" area prior to 1600, but the exact limits are unknown. As a result, no boundary is drawn for this period on Figure 25. There are grounds for belief that initial settlement of the "Dinetah" region occurred during the 1500's, but not enough early Navajo sites have been dated to verify this.

### Navajo Settlement at 1600

The references utilized in plotting this isochronic line are the ca. 1600 tree-ring dates from Chacra Mesa, the 1618 date from Rincon Largo, the Dinetah phase sites in the Upper San Juan locality, and historical refer-

ences to the Apaches de Nabaju and Apaches of Quinia.

The Navajos are mentioned as being near Hopi in 1620, but there is no adequate information as to where they were actually living.

The extension to the south including Mt. Taylor plotted as a dashed line indicates a possible occupation of that area, based on Espejo's reference to Querechos in 1582.

### Navajo Settlement at 1650

This isochronic line is a hypothetical contour drawn between settlements documented for 1600 and 1700. During this period the westward extension to Canyon de Chelly almost certainly occurred, as documented by one tree-ring date of 1666 inc. from the Hopi locality.

### Navajo Settlement at 1700

Settlement data at 1700 is the most voluminous for the periods plotted here. At this time the Navajos moved from their earlier northeast boundary slightly to the southwest. The southeast boundary of this isochronic line is solidly based on historical references. The southwest boundary (dashed line) is derived from Governor Cuervo y Valdez's description of 1706. The solid line inside this is a more conservative estimate made to offset the lack of verification of Cuervo y Valdez's statement. The western tip of this isochronic line is documented by tree-ring dates. The northern boundary in the Chaco basin conforms to the modern lower border of the Pinyon-Juniper belt. North of the San Juan River, sites of Gobernador phase extend westward to the Animas River, suggesting a slight northwest expansion in this locality in the late 1600's and early 1700's. This expansion, correlated with the Refugee period, reflects a desire to escape the Spanish.

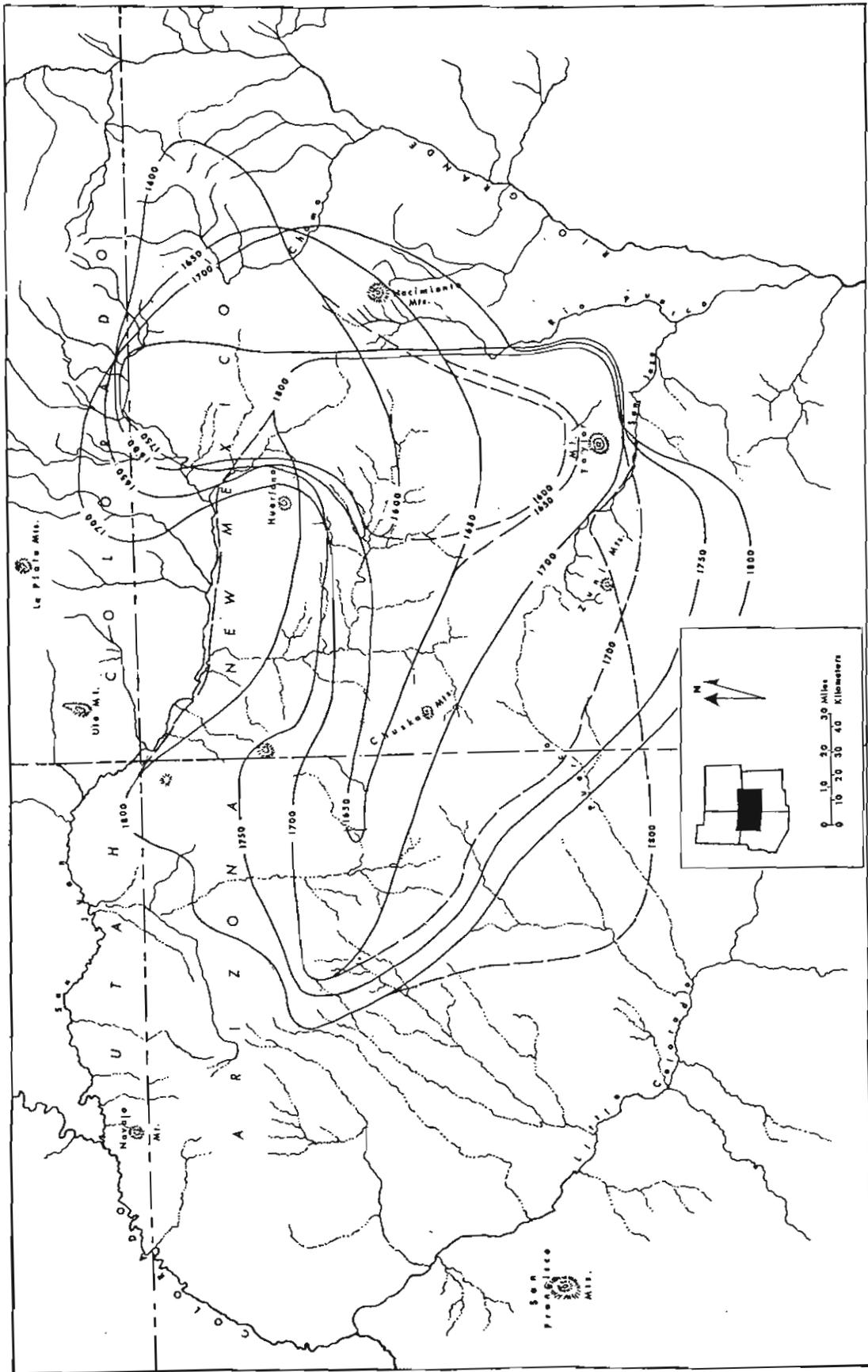


Fig. 25. Reconstruction of Navajo settlement at fifty year intervals, 1600-1800.

## Navajo Settlement at 1750

During this period there was a marked shift of the Navajos to the south and west. The population center shifted from the Gobernador-Largo drainages to the Cebolleta Mountains and Canyon de Chelly. This shift is well documented by history and archaeology. The northeast boundary at this time includes only the central portion of the Gobernador and Largo localities. The southeast border of the Navajo province is the Spanish frontier identical with that of the earlier periods. Southwest of Mt. Taylor there may have been an expansion, as this region is ecologically favorable. In addition there are historical references to Navajo-Gila Apache contacts at a slightly later date in the 1780's, suggesting that such an expansion had already occurred. The extreme western boundary is dated by tree-rings from the Hopi locality. The northwest boundary is projected to indicate a northward expansion up the ecologically favorable Chuska Mountain range. The Chaco basin is considered to have been ecologically unfavorable for an economy based on floodwater farming, therefore the northern boundary is plotted along the modern lower limit of the Pinyon-Juniper belt.

## Navajo Settlement at 1800

This period is characterized by the abandonment of much of the Dinetah area and continued expansion to the west and northwest. Of extreme importance in the plotting of Navajo settlement for this period is the question of the validity of the Miera y Pacheco map of 1778. There is information which allows us to check some of his boundaries. The eastern boundary of the Navajo province as plotted by Miera y Pacheco includes the Gobernador, Largo, and Upper San Juan localities and excludes Big Bead Mesa and the Cebolleta locality, which appears to be an error; according to the archaeology, most of the Gobernador and Largo localities were abandoned by this time. In addition, the Cebolleta locality was populated heavily enough to force the abandonment of numerous land grants between the San Jose River and the Rio Puerco. As a result, the

southeast boundary of the Navajo province is plotted in the same position as in the preceding period.

The Miera y Pacheco boundary between Hopi and Acoma appears to be fairly accurate, although there is little corroborative evidence. The dashed southwest boundary in Figure 25 is plotted as a compromise between the Miera y Pacheco boundary and the Rio San Jose, as the Spanish in 1785 forbade the Navajos to live south of the Rio San Jose. If the Navajos abided by this ruling, then the dashed line in Figure 25 is reasonably accurate for this period. However, if the Navajos disregarded the Spanish rule (as they probably did), they may have expanded south and west to the limits of the Pinyon-Juniper belt, plotted as a solid line. The Miera y Pacheco boundary northeast of Hopi is remarkably accurate, agreeing with the boundary plotted from tree-ring dates. The northern boundary of Miera y Pacheco is the south bank of the San Juan River. This boundary is suspect as this is the area that was avoided by the Escalante party (Auerbach, 1943, map opp. p. 90), which went approximately 100 miles north of the San Juan River and probably plotted this boundary from hearsay evidence. Since there is no other information available at the present time for this boundary, the northern boundary is plotted as being halfway between the border of the Pinyon-Juniper belt and the San Juan River. On the other hand, if, by 1800, sheep herding had become the dominant economy, then the Chaco Basin would have been an ecologically favorable area. This possibility has been plotted as a dashed line.

## Navajo Settlement Post 1800

After 1800 when sheep herding became the dominant economic pursuit, the Navajos expanded into the lower and dryer areas, in a period of intense geographic expansion. They moved north into southwestern Colorado and southeastern Utah and west to the Colorado and Little Colorado rivers. The exact time that each of these regions became occupied is yet to be determined.

## THE TRADITIONAL HOMELAND OF THE NAVAJOS

The traditional homeland of the Navajos is stated by them to be bounded by the Sacred Mountains. It is interesting to compare the locations of these mountains and other geographic points mentioned in Navajo mythology with the record of Navajo settlement. As a test case the volume "The Dine" (O'Bryan, 1956) gives some of the geographic place names as follows:

## Sacred Mountains

East: Sis na' jim - Mount Baldy near Alamosa, Colorado or Pelado Peak.

South: Tso' dzil - Mount Taylor, New Mexico.

West: Dook' oslid - San Francisco Mountain, Arizona.

North: Debe' ntsa - La Plata Mountains, Colorado.

Center: Dzil na' odili - Huerfano Mesa, New Mexico. Chol' i i' or Dzil na' odili choli - Huerfanito Peak or the Mother Mountain near Taos, New Mexico.

## Other Geographic Points

Tseya kan!: Hog Back Mountain, New Mexico.

Nltsa dzil: Carrizo Mountains, Arizona

: Shiprock, New Mexico (no Navajo name).

Ki' ndot liz: Blue House, above Farmington, New Mexico on the San Juan River.

Top Mesa: Red Mesa near Farmington, New Mexico.

Tse' ten iss ka: a peak beyond the La Plata Mountains, Colorado

Knol ghi nee: a place beyond the Carrizo Mountains, Arizona.

: Mancos Canyon, Colorado (no Navajo name)

: Montezuma Valley, Utah (no Navajo name)

: Ute Mountain, Colorado (no Navajo name)

Other lesser geographic points are mentioned but the above list should suffice for the purpose of this analysis.

The first point of comparison is the relationship between the sacred mountains and Figure 25. If the four main boundary peaks are to be roughly equidistant from the center of Navajo settlement and that center is near Huerfano Mesa, then the period of settlement so represented occurred about 1800 or slightly later. The confusion with respect to the identity of the east mountain suggests that the association of the Navajos with that mountain dates from an earlier period than their association with the other three mountains. This agrees with the archaeological and historical evidence for Navajo migrations.

A second point of interest is the fact that the minor geographic place names mentioned by O'Bryan's informant are all close to the Mesa Verde area where the myths were recorded. This suggests that a certain amount of local variation exists in the mythology, with each story being adapted somewhat to the local surroundings. In the case studied, this adaptation is considered to have occurred sometime in the 19th century, as the Mesa Verde area lies outside the area occupied at 1800.

## DEMOGRAPHY

The reconstruction of population changes through time is hampered by the fact that we are dealing with a migrant population, which tended to be extensive in its settlement pattern rather than intensive. (1) In the Upper San Juan locality, approximately 240 hogans were identified as occupied between 1698-1775. This figure was multiplied by an arbitrary figure of 3.5 persons per hogan; while this figure is arbitrary, it is analogous to population estimates of Puebloan Indians given by Pierson (1949), a figure which takes into consideration the fact that each extended family would inhabit more than one hogan; no correlation between one hogan and one nuclear family is intended. This multiplication yields a figure of 840 persons inhabiting the Upper San Juan locality during the period 1698-1775. This is assumed to represent four generations of 210 persons each. If we may assume that there were 2 generations living at one time, this would yield a figure of 420 persons as the normal population (Dittert, *et al*, 1961, p. 248). (2) Population density in the Gobernador and Largo localities was equal or greater. (3) Sites on Big Bead Mesa dated between 1745 and 1812 total 98 hogans (Keur 1941, Table A), which, using the same assumptions, gives an estimate of 343 persons living during approximately  $3\frac{1}{2}$  generations or about 200 persons at any one time. (4) The twelve witnesses in the Rabal document estimated that for the period 1706-43, there were from 2000 to 4000 Navajos. (5) Vivian (1960, Table A) records the presence of seventy-six hogans and eighteen masonry units on Chacra Mesa between ca. 1600-1779, with the structures clustering between 1704-45; roughly, masonry structures would house twice as many persons per unit, giving the equivalent of 112 hogan units, or a total of 392 persons, of which, perhaps 300 were living after 1700. (6) In 1863 there were 7,300 Navajos at Fort Sumner and in 1869 they numbered 9,000 (Worcester, 1947, p. 19). (7) Malcolm Collier (1951, Table 3) gives an actual count of modern Navajos living in hogans: Her average figure is 5.5 persons per hogan which is high for pre-1800 population estimates

as the hogan has been increasing in size in the past 100 years.

The combination of these figures into a reasonable estimate is dependent to an unwarranted degree on various factors of weighting which could vary with the investigator. It is sufficient to say that archaeological and historical data are only available with any degree of accuracy for the period 1698-1812, and the Bosque Redondo interval. If we multiply the total number of hogans by 3.5 and 5.5 persons per hogan, we get a figure for the 1698-1812 period of from 2,300 to 3,650 persons. This period represents about five generations. The population estimates range from 460 to 730 persons per generation or from 920 to 1,460 persons living at any one time. This figure is probably too low due to the number of hogans yet unlocated. The magnitude of this estimate derived from archaeological research is close to the figure given in the Rabal document and tends to substantiate that statement.

If the Navajo population in the early 18th century was in the neighborhood of 2,000 persons, and this total included many Pueblo Indians incorporated as a result of the Pueblo Revolt, the pre-revolt population would have been substantially less than 2,000. This gives us some indication of the size of the original group of Navajo migrants to enter the Southwest. An exact figure is not calculable, but a figure on the order of 1,000 persons  $\pm 25\%$  would appear to be proper.

If we compare the figure of 2,000 for the year 1700 with that of 9,000 for 1869, we can see a dramatic increase in population of 2.05% per year. The amazing fact is that this rate of increase of about 2% per year has continued from 1869 to the present (Kluckhohn and Leighton, 1947, p. 17). Although shaky, the above estimates suggest that the Navajos have been increasing in population at a fairly constant rate for the past 260 years.

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