early

NAVAJO MIGRATIONS *and* ACCULTURATION

in the southwest

by
James J. Hester

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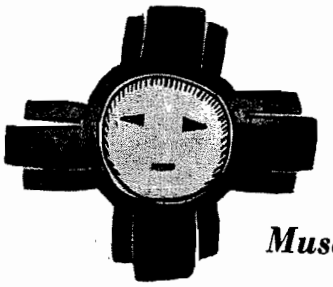

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CHAPTER I

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.

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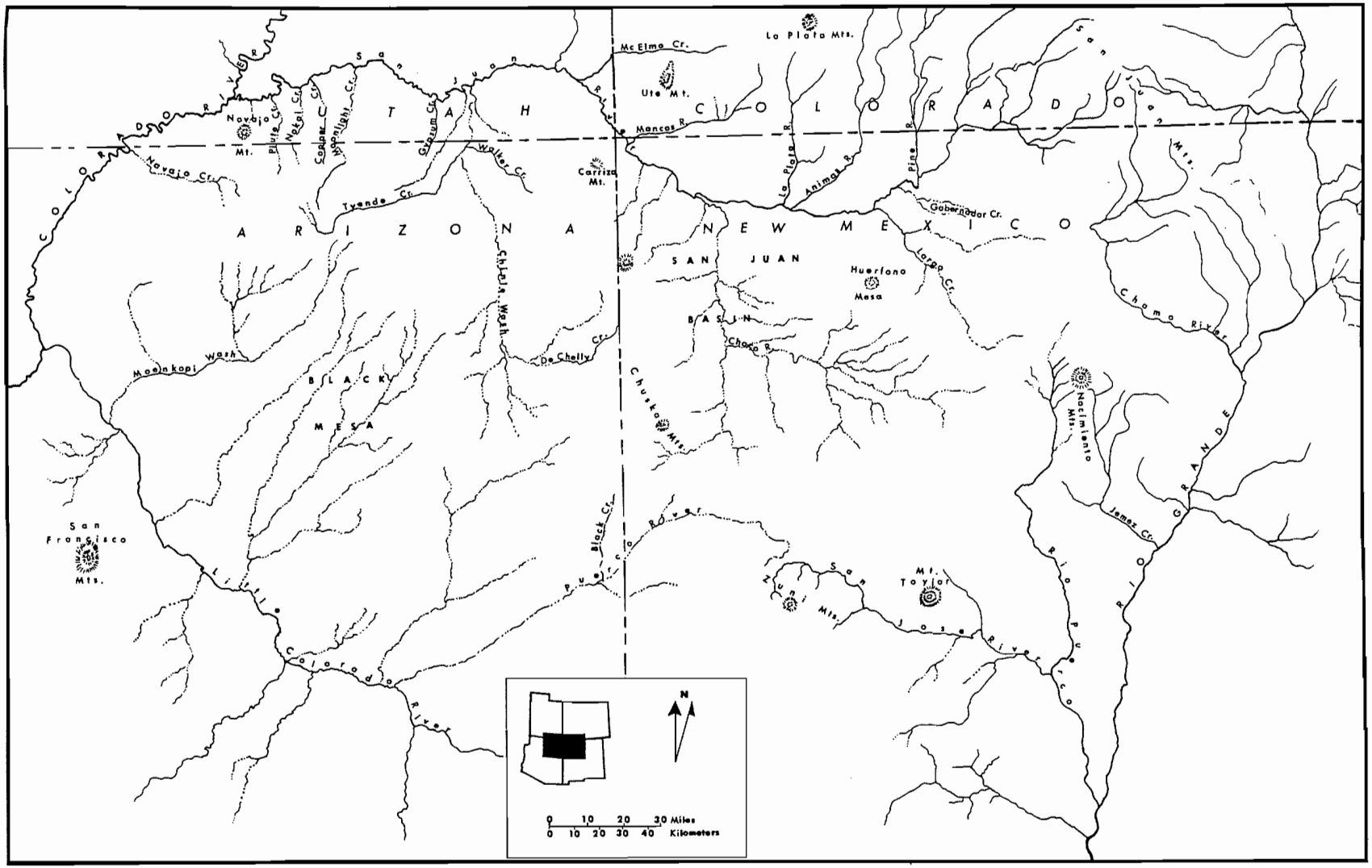

Fig. 1. Physiographic map of the Navajo Country.

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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.

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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 origins 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).

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Additional Inquiries

One theoretical investigation could only be made after the documentation of the nature of Navajo culture and of the changes in this culture through time: This is the study of Navajo culture change in terms of cultural process, specifically that of "acculturation" (Redfield, Linton, and Herskovits, 1936). The data clearly indicates acculturative processes at work in Navajo culture, primarily the influence of the Pueblo Indians and the Spanish. The opportunity lies in the availability of historical documents in conjunction with archaeological and ethnographical information. This historical background can be used to demonstrate the kinds and duration of influences affecting the Navajos and the nature of the changes which occurred. As a result a statement of process may be formulated.

A second problem to be considered is the difference between archaeological and historical reconstructions of culture history. A reconstruction of Navajo culture will be formulated from the data of each of these disciplines. Corroboration between these two reconstructions can yield insight into the degree of veracity of reconstructions based on data of one discipline examined in isolation.

In addition to the determination of differences in emphasis between archaeological and historical evidence pertaining to the early Navajo, a brief comparative study will be made of other sources where both of these disciplines are used.

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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

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

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.

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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).
1582*	The Spanish with Espejo had a skirmish with the Querechos (probably Gila Apaches) near Mt. Taylor (Hammond and Rey, 1929, pp. 112-114).
1627*	Apaches de Nabahu were living on the Chama River upstream from Santa Clara (Bartlett, 1932, p. 29).
1628*	The Apaches of Quinia were living fifty leagues from Santa Clara and west of the Rio Grande (Hodge, et al, 1945, p. 89-91).
1629*	Hopis summoned some Apaches to help against the Spanish (Hodge, et al, 1945, p. 217).
1629*	Navajos were one day's journey from Santa Clara (Hodge, et al, 1945, pp. 86-87).
1634	The Apache frontier extended for 100 leagues along the Rio Grande (Hodge, et al, 1945, p. 91).
1692*	Navajos were one day's journey from Picuris and San Juan (Bailey, 1940, p. 49).
1692*	Hopis mentioned that some Apaches (Navajos) were nearby (Bailey, 1940, p. 85).
1696*	Some Pueblo Indians fled to the Apaches of Cebolleta (probably Navajos) (Reeve, 1958, p. 213).
1705*	Roque Madrid found some Navajos farming on the San Juan River (Worcester, 1947, pp. 103-104).
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 from areas occupied on the original map now in the archives in Mexico City. (Hackett, 1937, pp. 381-382).

> 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 Lumbre, 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 / /Sevilleta/, 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.

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).
1706*	Navajos lived from Piedra Lumbre to the San Juan River (Reeve, 1958, p. 217).
1706*	Navajos lived forty leagues west of Picuris (Reeve, 1958, pp. 218-219).
1706*	Navajos retreated to the north end of Cebolleta Mountain (Reeve, 1958, pp. 218-219).
1706	The Spanish entered the Navajo country at Las Grullas, thirty leagues northwest of Santa Fe (Reeve, 1958, p. 221).
1707-1712*	Navajos were thirty leagues north of Jemez (Hill, 1940, pp. 400-402).
1709*	The Navajo province was thirty leagues west of Jemez and forty leagues north-south (Reeve, 1958, p. 225).
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).
1745*	Fray Carlos Delgado visited the Navajos near the head of Largo Canyon (Reeve, 1959, pp. 15-16).
1745*	Fray Carlos Delgado and Fray Jose Yrigoyen visited the Navajos living at the north end of Cebolleta Mountain (Reeve, 1959, p. 17).
1746*	Navajos colonized Cebolleta (Hodge, et al, 1945, p. 309).
1748*	Due to drought the Navajos were amenable to the missionarie's suggestion that they move south to the Cebolleta region (Reeve, 1959, p. 20).
1750	Navajos petitioned the Spanish to let them colonize Cubero (Worcester, 1947, p. 130).
1750*	The missions established at Cebolleta and Encinal were abandoned the same year (Hackett, 1937, p. 29).
1752*	Utes attacked the Navajos and drove them south (Worcester, 1947, p. 136).
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).
1762*	Some Navajos were living west of the Antonio Baca Grant (Reeve, 1959, p. 31).
1766*	Navajos were living in the area of the Felipe Tafoya Grant (F.L.O. File C67, pp. 58-59).
1768*	Navajos were living at the south boundary of the Canada de los Alamos Grant (F.L.O. File 172, p. 14).
1768*	Navajos were living at the southeast corner of the San Mateo Spring Grant (F.L.O. File C75, pp. 9-12).
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).
1796	Cordero reports the Navajo had ten settlements; Sevolleta, Chacoli, Guadalupe, Cerro Cabezon, Agua Salada, Cerro Chato, Chusca, Tunicha, Chelle, and Carrizo (Matson and Schroeder, 1957, p. 356).
1800*	The Spanish proceeded to attack the Navajos at Puerto de Tunicha (Twitchell, 1914, no. 1492).
1804*	Navajos requested Cebolleta from the Spanish (Twitchell, 1914, no. 1754).
1805*	Narbona defeated the Navajos in Canyon de Chelly (Twitchell, 1914, no. 1792).
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).
1812*	Navajos lived twenty five leagues from the Spanish frontier between Zuni and Hopi (Carroll and Haggard, 1942, p. 133).
1819*	Some Navajos fleeing the Spanish settled near Hopi (Van Valkenburgh and McPhee, 1938, p. 6).

* Plotted on Figure 24.

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TABLE XIII

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. Le Nouveau Mexique, et La Floride por N. Sanson (Lowery, 1912, pp. 147-148, WL 147).
1657	"Apaches de Navajox" shown in same position as above. Audience de Guadalajara, Nouveau Mexique, California & C. by N. Sanson (Brayer, 1936, opp. p. 129).
1669	Same as Sanson map of 1656. Amerique Septentrionale por N. Sanson. Geographe Ordre du Roy. Paris.(MNM Library).
ca. 1670	Same as Sanson map of 1656. Map of America by F. de Wit (Wheeler, 1889, p. 509).
1700?	"Apaches" north of Hopi and Zuni and west of the Continental Divide at approximately 36 degrees and 30 minutes N. Latitude. Carte du Nouveau Mexique tiree des Relationes de Mons'r le Comte de Peñalossa (Lowery, 1912, pp. 200-202, WL 225; Espinosa, 1934, opp. p. 113).
1701	"Apaches de Navajo" shown just west of the Continental Divide between the latitudes of Santa Fe and Taos. Carte des environs du Mississipi por G. de L' Isle. (Lowery, 1912, pp. 219-221, LC 252; 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. A map of Mexico or New Spain, Florida now called Louisiana and part of California & C. by H. Moll (Lowery, 1912, p. 237, WL 282).
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. A New Map of the North Parts of America claimed by France, etc. by H. Moll (Lowery, 1912, p. 250, LC 303; MNM Library).
1690-1733?	"Apachi Navajentes in longu extensi versus occidentem" shown north of the Hopi country. Tabula Mexicae et Floridae by Pieter Schenk (Lowery, 1912, p. 186, LC 198).
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. Travajo Personal que en la Inspesion 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 (Lowery, 1912, p. 296).
1763	"Apachi Navajentes in longu extensi versus occidentem" shown north of Zuni. Regni Mexicani seu Novae Hispaniae, Ludovicianae, etc. by Johann Baptist Homann in Atlas Geographicus Major (Lowery, 1912, p. 332, WL 473, MNM Library).
1768	"Provincia de Navajo" directly west and slightly north of Cerro Pedernal and southeast of Sierra Azul Tan Decantada and northwest of the Hopi villages. Nuevo Mapa Geografico de la America Septentrionale Perteneciente al Virreynato dé Mexico por D. Josef de Alzate y Ramirez (Lowery, 1912, pp. 349-350, WL 515. 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. Plano, corrografico i hidrografico de las provincia de el nuevo mexico, sonora, etc. by Francisco Alvarez Barreiro, (British Museum add. Ms. 17.650b; MNM Library).
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. Plano Geografico de la Tierra descubierta, nuevamente, a los Rumbos Norte, Noroeste, y Oeste, del Nuevo Mexico, etc. by Don Bernardo de Miera y Pacheco (Lowery, 1912, p. 390, LC 607; Auerbach, 1943, opp. p. 24; MNM Library).
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). Plano de la Provincia interna del Nuevo Mexico etc. by Don Bernardo de Miera y Pacheco (Lowery, 1912, p. 395, No. 619; Thomas, 1932, opp. p. 87; 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. New Mexico by Mascaro-similar to the Miera y Pacheco map of 1778 (MNM Library).
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. Mapa Geografico del Gobierno de la Nueva Granada o Nuevo Mexico: con las Provincias de Nabajo y Moqui 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).
1799	"Navajo" shown directly west of Santa Fe just west of the Continental Divide. Mapa Geografico de la Pte. de la America Sept. aumentado y corregido por Don Jose Cortes (Lowery, 1912, p. 439; LC 720, MNM Library).
1811	"Navajoes Inds." plotted east of Hopi and north of Zuni (Humbolt, 1822, map No. II).

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, northeast 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.

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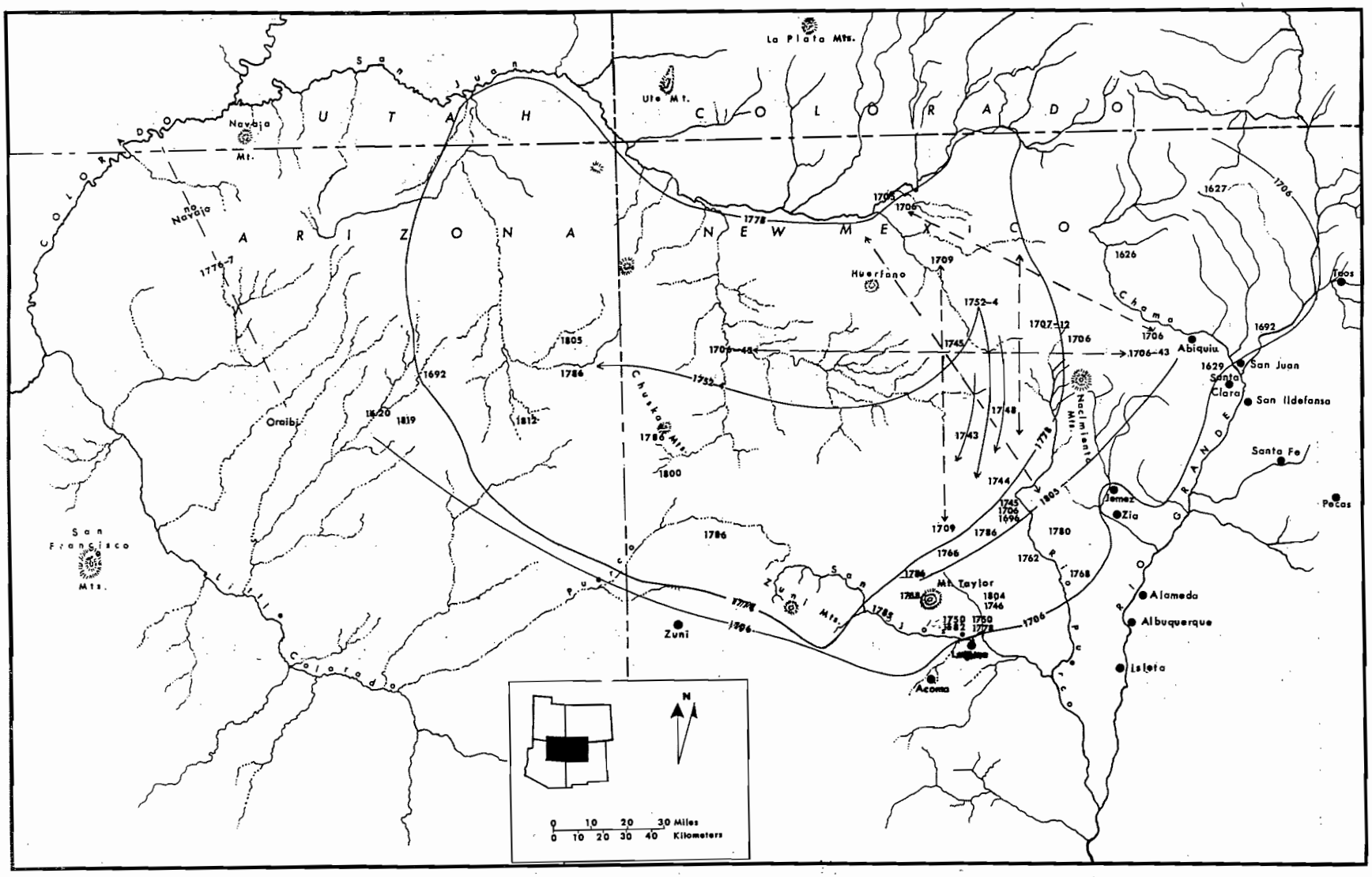

Fig. 24. Location of historical references to Navajo settlement.

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TABLE XIV

TREE-RING DATES FROM NAVAJO SITES

Locality and Site	Dates	No. of Dates
Gobernador and Largo Localities		
(Smiley, 1951, No. 43)		
Muniz Canyon		
LA 1687	1744+*	1
Gobernador		
LA 1868	1732+	1
Morris's sites	1700+ -1744	4
Gobernador 25	1718 - 1719	2
Gobernador 72	1491 - 1521	3
San Rafael		
LA 1869	1749	1
La Jara		
LA 1684	1735	1
San Rafael		
LA 1871	1732+- 1733+	2
LA 2298	1690	1
Dos Cerritos		
LA 2136	1724 - 1734	6
La Jara		
LA 2138	1705 - 1714	8
Santo Nino		
LA 2137	1726 - 1750	3
Frances Canyon		
LA 2135	1717 - 1743	6
Largo Canyon		
(Smiley, 1951, No. 60)		
NA 1740	1826	1
NA 1741	1739	1
Rincon Largo	1618+- 1725	2
H3, S13, C1	1754+	1
H5, S13, C2	1735	1
H1, S 19, C5	1747	1
Rincon Largo		
(Farmer, 1942, 71)		
Site 13	1725+- 1762+	2
Site 17	1745+	1
Chaco Locality		
Chacra Mesa		
(Vivian, 1960, pp. 155-156)		
CM 4	1773+VL -1779+VV	2
CM 18	1634VV - 1745+V	3
CM 35	1350VV - 1598++VV	7
CM 38	1600+V - 1739G	8
CM 139	1725 - 1739C	2
CM 150	1704+VV	1
Big Bead Mesa Locality		
(Keur, 1941, p. 68)		
AH-1	1771	1
AH-1B	1779	1
AH-2	1781	1
AL-1	1767	1
BH-1	1777	1
CH-3	1781	1
CH-3B	1792	1
DB-1	1712	1
DB-1B	1775	1
DH-1	1745+	1
EH-1	1765	1
EH-17	1765	1
EH-20	1785	1
EH-25	1784	1
FH-1A	1766	1
FH-1B	1762	1
FH-2B	1770	1
JH	1724	1
JH-3	1791	1
JH-6	1727	1
JH-8	1735+	1
JH-10	1673 - 1721	2
YH-2A	1729	1
YH-2B	1725	1
YH3	1689	1
YH-4	1784	1
Canyon de Chelly Locality		
(Hurt, 1942, 98)		
Spider Rock sites	1758- 1770	3
Hopi Locality		
(only dates prior to 1809 are listed)		
(Healing vs. Jones, 1960)		
Dzildajinnah		
W-LLC-DZ-K	1808 inc.	1
W-LLC-DZ-M	1807+	1
W-LLC-DZ-N	1701+	1
W-LLC-DZ-G	1805+	1
W-LLC-DZ-D	1805+	1
Upper Oraibi		
W-LLC-UO-O	1728 inc.	1
W-LLC-UO-P	1792+inc.	1
W-LLC-UO-Q	1795 inc.	1
W-LLC-UO-R	1622+inc.G- 1804+inc.	3
W-LLC-UO-V	1808+- 1809+	2
W-LLC-UO-E	1744+	1
W-LLC-UO-F	1779+	1
W-LLC-UO-H	1809 inc.	1
W-LLC-UO-X	1743+inc.	1
W-LLC-UO-DD	1790+inc.G	1
W-LLC-UO-LL	1743+inc.	1
Pinyon		
W-LLC-P-I	1754+	1
W-LLC-P-F	1710 inc.	1
W-LLC-P-N	1804+- 1807+	2
Lone Mountain		
W-LLC-LM-G	1773+	1
W-LLC-LM-M	1807G	1
Pitch Point		
W-LLC-J-E	1808+	1
W-LLC-J-B	1795+	1
W-LLC-J-C	1724+	1
W-LLC-J-H	1798+	1
W-LLC-J-J	1723 inc.G	1
W-LLC-J-K	1778+G	1
Owl Point		
W-LLC-OP-P	1804 inc.	1
W-LLC-OP-T	1711 inc.	1
Tse Chizzi		
W-LLC-TS-E	1666 inc.	1
W-LLC-TS-H	1743+	1
W-LLC-TS-P	1759+	1
North Jeddito		
W-LLC-NJ-B	1703 inc.	1
W-LLC-NJ-K	1757+	1
W-LLC-NJ-P	1748+- 1802+	2
W-LLC-NJ-W	1784+	1
W-LLC-NJ-F	1795+	1
W-LLC-NJ-EE	1800+	1
W-LLC-NJ-D	1730+- 1776+	2
Middle Jeddito		
W-LLC-MJ-DD	1772 inc.G- 1806+inc.G	4
W-LLC-MJ-HH	1804+inc. - 1809 inc. G	2
W-LLC-MJ-III	1797 inc. G	1
W-LLC-MJ-QQQ	1802+inc. - 1807 inc. G	2
W-LLC-MJ-SSS	1720 inc. - 1806+ G	4
Burnt Corn		
W-LLC-BC-P	1765+G- 1798+inc.	2
W-LLC-BC-I	1803+	1
W-LLC-BC-L	1787+	1
Salinas Mesa		
W-LLC-SM-X	1766 inc.	1
W-LLC-SM-B	1738+	1
W-LLC-SM-D	1732+- 1773+	2
W-LLC-SM-E	1711+- 1756+	2
W-LLC-SM-N	1722+- 1756+	2
W-LLC-SM-A	1760+	1
W-LLC-SM-Q	1784+	1
W-LLC-SM-T	1752+	1
W-LLC-SM-V	1761+- 1782+	3
W-LLC-SM-W	1800+	1
Doyanescla Mesa		
W-LLC-DO-L	1808+	1
W-LLC-DO-G	1772 inc.-1788 inc.	2
W-LLC-DO-F	1798+	1
W-LLC-DO-Z	1803+	1
Hoshdodito Mesa		
W-LLC-HT-D	1797+	1

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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.

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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 references 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.

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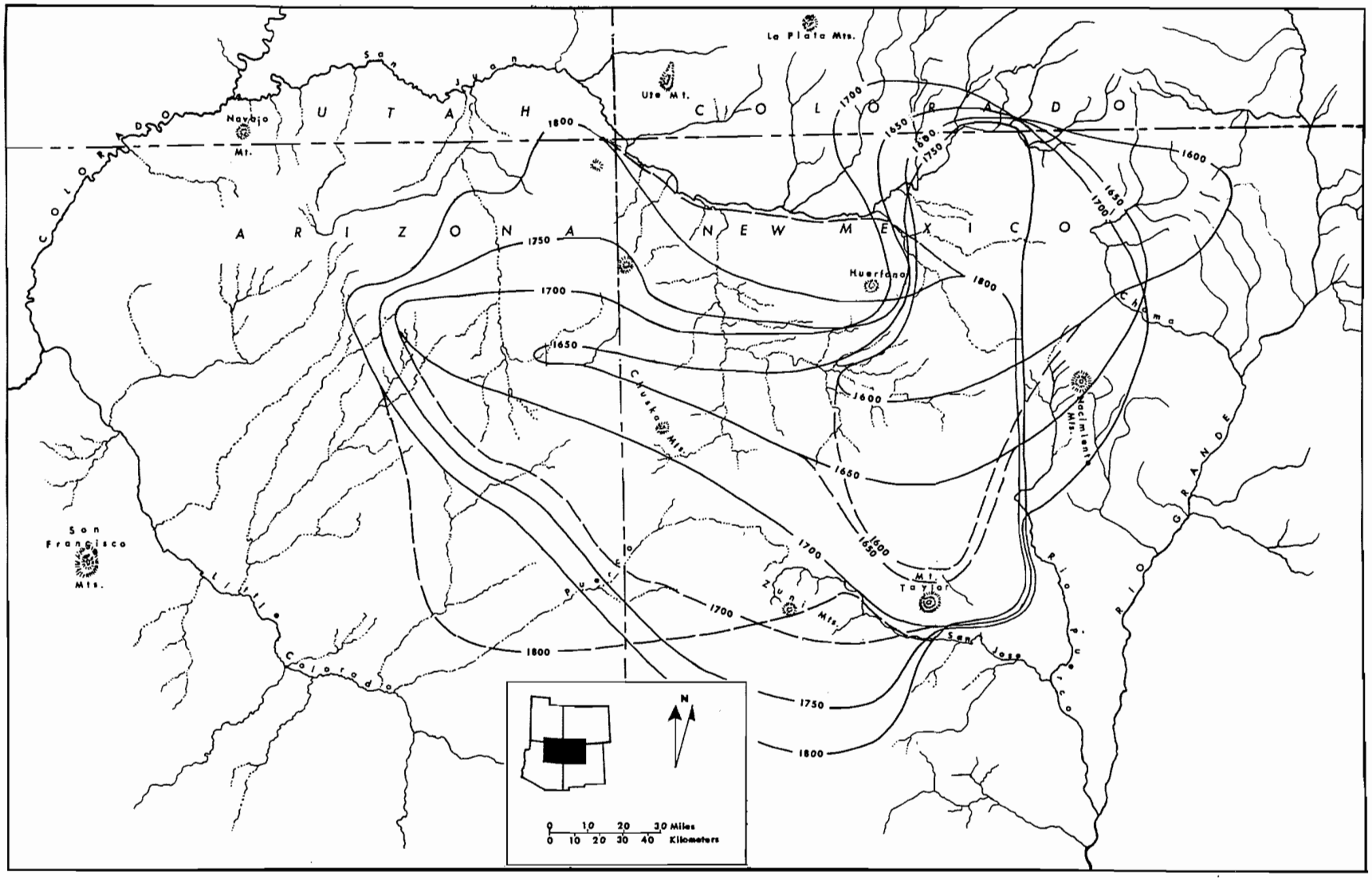

Fig. 25. Reconstruction of Navajo settlement at fifty year intervals, 1600-1800.

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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 possiblity 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.

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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.

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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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