Red Ant, who was practically asleep on his feet, suddenly revived.

"I certainly would," he almost shouted. "When my father comes home I shall ask his permission to go. Anyway, we are in no hurry to to back to Yuma Land."

So all the way back to Tracker's house and even after both boys were in bed they made exciting plans about what to take on the trip and speculated on what strange places they were to see.

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NAVAJO SEASONAL MIGRATION PATTERNS

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ABSTRACT

Navajo seasonal migration patterns have often been mentioned but seldom described. Published information on the subject is reviewed herein. Despite variations and complexities, two major patterns are discerned: 1) in areas emphasizing farming over herding, lowland farms are the summer residences and intermediate elevations affording firewood and pasture are sought in winter; 2) in areas emphasizing sheep raising, well watered, grassy highlands are the summer homes, while warmer, less snowy lowlands are occupied in winter. In some dry areas, however, the importance of livestock water sources may overrule the usual migration patterns.

INTRODUCTION

It has long been debated as to whether the Navajo – traditionally subsistence farmers and shepherds – are, or were, nomadic, seminomadic, or semisedentary (Jett 1978), but there is no disagreement that they are a mobile people. Writing of the 1880s, Cosmos Mindeleff (1898:484) stated,

> Although the average Navaho family may be said to be in almost constant movement, they are not at all nomads. . . . Each family moves back and forth within a certain circumscribed area, and the smallness of this area is one of the most remarkable things in Navaho life.

Maintenance of at least one, and usually two or more, seasonally occupied homesteads or "camps" with substantial dwellings that are reused year after year has long characterized Navajo settlement (Spencer and Jett 1971; Jett in press). Daily and other short-term movements out from these homesteads – particularly in connection with the herding of sheep – are typical and have been described elsewhere (Downs 1964; Hill 1938; Kunstader 1965; Kluckhohn and Leighton 1962). Seasonal migrations on a homestead group (extended family) basis (Jett 1978) have also been recognized for the Navajo since the beginning of United States hegemony in the Southwest. Backus (1854:209, 213) wrote, probably somewhat inaccurately, that the Navajo spent the autumn and winter in the less snowy southern Navajo Country, and the spring and summer on "the Cienegas [flood plains] and Mesas of the north." Nevertheless, as C. L. Toulouse (1975:482-83) has observed, "although the occurrence of Navajo seasonal migration is widely known, it has somehow escaped emphasis in scientific discussions of Navajo lifeways." Thus, it seems particularly worthwhile to collate what specific data the

literature does provide on such movements (some direct use of Navajo informants is also made).

NATURE OF, AND MOTIVES FOR, SEASONAL MOVEMENTS

Although apparently considerably shorter than formerly (see, for example, Frisbie and McAllister 1978:31, 38, 41), seasonal movements on a homestead group basis are usual (although by no means universal) among the Navajo. It should be kept in mind, however, that in many instances only a few members of a family or homestead group may participate in such moves. Movements may involve relatively short distances, and "permanent" dwellings are normally maintained at one or more sites for several years, or even for generations. Thus, the term "nomadic" is probably inappropriate when applied to the Navajo. Actual spatial and temporal patterns of individual or family movements vary greatly from place to place, even within a single community, due to regional and local environmental, cultural, and economic differences.

Regarding seasonal movements and the situating of camps, geographer J. W. Hoover (1931:432; see also, Jett in press) recognized the following determinants:

1) location of summer and winter grazing range;
2) location of summer farms (a function of moisture, soil, and growing season);
3) local temperature differences (conditioned by elevation, exposure, and cold air drainage);
4) location of winter fuel (mainly juniper and pinyon pine, sometimes coal in the San Juan Basin, New Mexico);
5) location of intraseasonal livestock forage abundance according to where rain has fallen;
6) location of domestic and livestock water supplies;
7) location of pinyon forests (for autumn pine nut gathering) and peach orchards (for autumn trading, especially at Canyon de Chelly, Nazlini, and the Hopi Country; see Jett 1977);
8) social considerations (for example, attendance at dances and ceremonies).

Raiding (Hill 1936; McNitt 1972) and seasonal hunting expeditions (Hill 1938) were also made before the 1880s, and journeys for trading or to obtain salt were formerly common (Hill 1940; 1948). For the post-1940 period, locations of places of seasonal or permanent employment, of stores, and of schools have also been important in influencing settlement and movement.

Because of the multiple factors determining movements, local migration patterns are often quite complex. Two main seasonal migration patterns and

a few important variants can be discerned, however. The adoption of one or the other of these by any Navajo family appears to be strongly influenced by whether subsistence farming or sheep raising is more important to its livelihood, which in turn is largely a reflection of the variations in physical environment in the Navajo Country (Figure 1). From the point of view of traditional Navajo economy, the most important zones are: 1) the major drainages of the lower elevation country, where floodwater and irrigation farming may be emphasized. These are widely scattered, but the most important areas are the San Juan Valley in New Mexico and the Canyon de Chelly-Chinle Valley, Pueblo Colorado Valley, and Tuba City areas of Arizona; 2) the broad areas of desert and steppe of the eastern, northern, and western Navajo Country, where farming possibilities are limited and livestock raising is paramount; and 3) the pinyon pine-juniper-sagebrush belt of the central areas where residents have satisfactory opportunities for combining farming with stockraising. They may, in some areas, take advantage too, of the meadowlands of the higher, forested mountains and plateaus concentrated along the Arizona-New Mexico border.

Lowland/Summer Farm-Highland/Winter Firewood Pattern

One common seasonal migration pattern which has persisted for at least a century and a quarter, and probably for far longer, was noted in 1849 by Simpson, an acute observer. He stated that the Navajo lived near their farms and grazing areas in summer, and in winter resided in the highlands, where firewood was available (McNitt 1964:95). The Franciscan Fathers (1910:329-30) also described the farm as the summer residence and an area affording fuel and grazing as the winter residence, which is considered the home camp. Kunstadter (1965:71-72, 80) characterized Navajo seasonal movements more specifically as normally involving a shift from low, wide "valleys, where water was available for agriculture, and where the growing season was sufficiently long to grow corn," to "higher elevations where wood was more readily available for fuel in the winter." These "higher elevations" are actually intermediate elevations, in the pinyon pine-juniper woodlands of the mesas and foothills, not the ponderosa pine-Douglas-fir zones of the mountains.

Although the pattern described above seems never to have obtained in some parts of the Navajo Country, Hoover (1931:434-37) considered it characteristic of the middle San Juan Valley and the Chaco Canyon area of New Mexico, and of the Pueblo Colorado and Chinle valleys, Canyon de Chelly, portions of valleys near the Hopi Buttes, and the Tuba City area of Arizona (for place-names, see Hyde and Jett 1967:map). Kluckhohn and Leighton (1962:7-8) found this practice dominant in Dinnehotso Valley,

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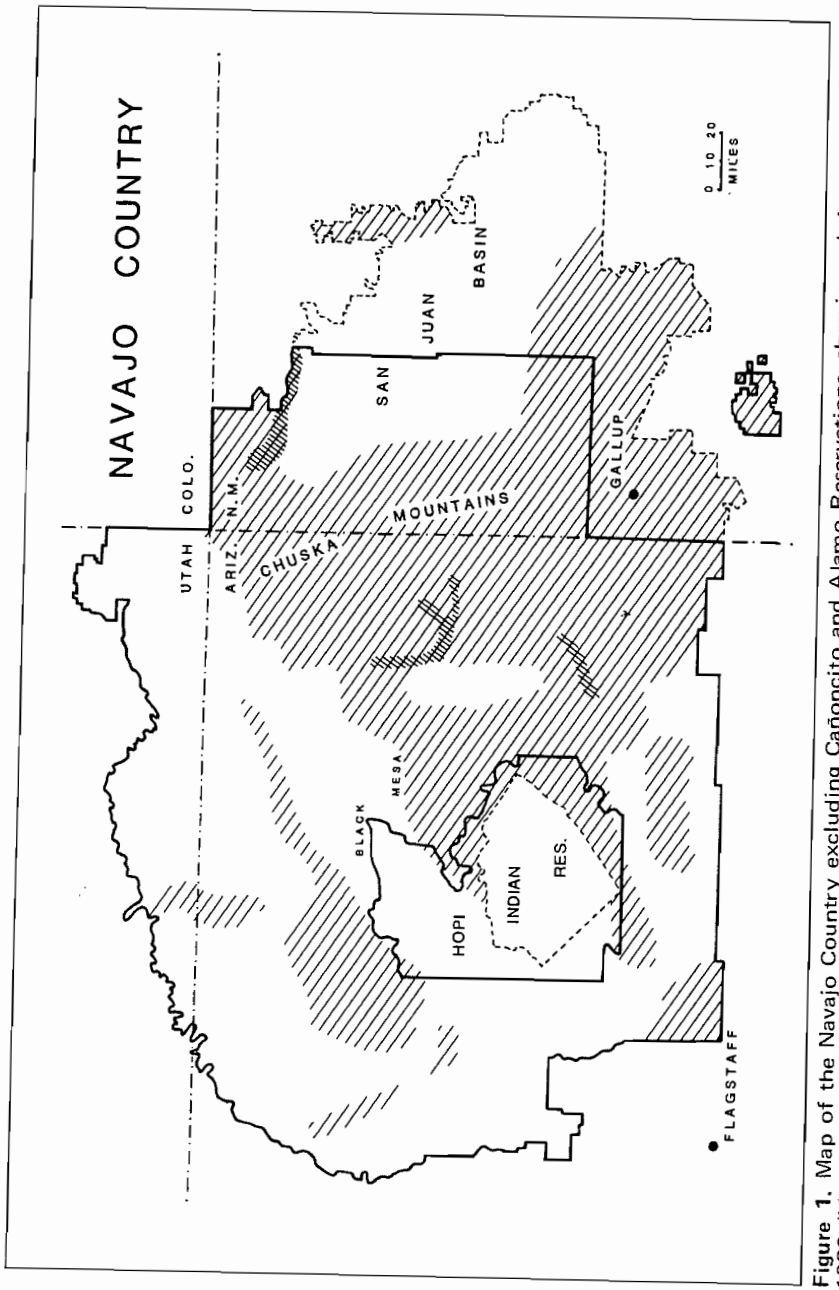

Figure 1. Map of the Navajo Country excluding Cañoncito and Alamo Reservations, showing subsistence activities in 1930 (Young 1961:310). Solid lines are 1978 reservation boundaries, dashed lines the limits of Navajo occupance in 1977. Sheepherding dominates in the unshaded areas, mixed herding and farming in the hatched areas, and farming in the cross-hatched areas.

Arizona, as well. These are all relatively lower elevation areas lacking firewood near the farms. In modified form, tending increasingly toward permanence of settlement, the same pattern occurred in somewhat higher, more wooded farming areas around the base of the Chuska Mountains, particularly around Lukachukai and Tsaile, Arizona, and Tohatchi, Cottonwood Pass, and Captain Tom Wash, New Mexico (Hoover 1931:434-37; but see below). The pattern also occurred, with only short moves involved, among farmers in the Shonto area, parts of which support juniper and pinyon woodlands (Adams 1961:111, 117).

The situation is somewhat different on parts of Black Mesa, Arizona. Hill (1938:18; see also, Dyk 1938:5, 19, 36) wrote:

> Concerning the[se] movements, . . . if they are made at all the distance is usually negligible. Formerly, before the removal of the timber from the lower altitudes [in those areas where it existed], these moves were not made; the people staying all year long at their fields. In more recent times, since wagons have been introduced, wood is hauled to the summer (farm) residence which is then occupied all winter.

Nevertheless, short moves to wooded mesa bases (formerly, to mesa tops) were often made for the winter at Piñon, where the somewhat lower elevation summer camp is considered the principal camp. In such areas, where farming is emphasized, a common practice is for one or a few members of the homestead group to take the flocks to the cooler, wetter, grassier highlands, establishing a summer camp or camps, while most of the family remains at the lowland farm. The herd may be brought back to the farm in late summer so that the herders can help with the harvest (Downs 1965:1393; Hill 1938:18; Collier 1966:55). Actual patterns may often be more complex. For example, Chauncey and Dorothy Neboyia have five residences: 1) the "main," winter camp on the wooded Peninsula between Canyon de Chelly and Black Rock Canyon, Arizona; 2) a summer farm camp in middle Canyon de Chelly, now worked largely by Neboyia's eldest daughter's family; 3) a midsummer cattle camp in open country on the mesa between de Chelly and del Muerto; 4) a late summer sheep camp in the Chuska Mountains, New Mexico, usually operated only by a few, younger family members; and 5) a hogan in the town of Chinle, Arizona, adjacent to a daughter's house (related to Neboyia's former summer employment with the National Park Service and to his tourist guide service).

The patterns described above pertain only to areas where farming is relatively important, and, as noted, even in these areas hauling of firewood in wagons and pickup trucks, and, in some places, use of bottled gas, have caused a significant reduction in such moves and a tendency toward permanent settlements near the farms. (For a generalized map of population distribution and predominance of livestock-raising, farming, and a combination of these in 1930 see Young 1961:310. A discussion of differences in

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environment and correlated differences in population density, dependence on livestock versus farming, and the relative importances of the various Navajo socioterritorial groups and seasonal migrations is found in Freyer 1942.) In general, the greater the emphasis on farming, the less the length of seasonal moves, which are typically limited to the local community (Chapter) territory. In some areas, as along Polacca Wash, Arizona, lack of nearby firewood resulted in there never having been any seasonal movement, with a dependence on local greasewood shrubs for fuel. In other areas, more permanent highland residences have been established because of an increased use of introduced crops, such as potatoes, which do not require as long a growing season as do native crops (Hoover 1931:438; Kunstader 1965:82; Freyer 1942:411-13).

Lowland/Winter Pasture-Highland/Summer Pasture Pattern

Where grazing has an importance equal to or greater than that of farming, the seasonal migration pattern may be the reverse of that typical of heavily farmed areas, and may involve (at least formerly) quite lengthy seasonal movements in some areas. Mindeleff (1898:482) wrote,

> The usual practice is to take the flocks up into the mountains or on the high plateaus during the summer, quartering them near some spring or small stream, and when the grass-covering snow comes they are moved down to the lower foothills or out into the valleys. In the winter both the shepherds and sheep depend on the snow for their water supply, and by this means an immense tract of country, which otherwise would be a perfect waste, is utilized. As the snow disappears from the valleys the flocks are gradually driven back into the mountains.

"Thus, many people living near the [Chuska and Carrizo] mountains still maintain a *shiink'eh* (summer place) at the higher elevations and a *haik'eh* (winter place) at the lower elevations or on the plains. Family movements were (and are) generally confined to well defined areas of seasonal residence . . ." (Young 1961:541). Tradition suggests that prior to the period of the Ute raids, Navajo living along the northern base of Black Mesa had already established a pattern of moving their stock to the highlands after having planted in the spring in the lowlands, to which they returned for the harvest and for winter (Callaway and Witherspoon 1968:46). This pattern was noted for the Navajo in the late 19th century by Stephen (1893:347), who resided on the southern fringes of Black Mesa. In the Navajo Mountain area also, after the planting the farms remain untended most of the season or are tended by only one or two members of the family (Shepardson and Hammond 1970:102-03). Hoover (1931:343) considered summer moves to the highlands to be important for those emphasizing sheep raising in the vicinities of the Dutton Plateau, New Mexico, and Lukachukai Valley, Tsaile, Wheatfields, and Black Creek Valley, Arizona (in the last case, sheep would

be driven up to 96.6 km (60 miles) to the Chinle Valley for the winter, then to the Defiance Plateau in spring, and up into the Chuska Mountains in summer). According to Downs (1964:61) most Beautiful Valley, Arizona, residents move with their herds to the Lukachukai Mountains, part of the Chuska range, in summertime, and Toulouse (1975; see also, Bennett 1964:10) described summer moves to the Chuskas as the typical pattern for residents of communities along the eastern base of the mountains (particularly Naschitti, Sheep Springs, Two Gray Hills, Tocito, and Sanostee, New Mexico, and Red Rock, Arizona). Summer gardens in the mountains are also maintained by many of these people; in recent years, drought has reduced the productivity of lowland farms.

In the Sheep Springs community, moves to the mountains took place between May 20 and June 6, and the return to the flats occurred during September and October (Lamphere 1977:15, 23-24, 142-45).

Variant Patterns Relating to Stock Watering and Other Factors

Over large portions of the western third of the Reservation, as at Shonto, little or no movement to highland pastures takes place despite widespread dependence upon grazing. The same stock watering source must be used all year, and in 1955 seasonal moves in the Shonto area averaged less than 3.2 km (2 miles), primarily from the summer farms to more wooded higher ground for winter. Longer moves may have occurred in the past before the land became overcrowded (Adams 1963:111, 117). Before inundation in the 1960s, grassy riparian bars along the Colorado River in Glen Canyon were used to some extent for grazing, perhaps during the spring lambing season, by people from the Navajo Mountain area. Temperatures were more favorable to lamb survival in the lower elevations of the canyon bottom, and plenty of water was available (Adams, Lindsay, and Turner 1961:12; Crampton 1960:23-33; David M. Brugge, personal communication, 1976).

In many other parts of the western Navajo Country, water availability is the paramount consideration in determining moves. Many desert grazing areas are (or were, before wells were drilled) utilized only in summer, when grass is relatively plentiful and potholes are full of water.

> During the rainy season [of July and August] pools and little lakes of water are formed all over the flat country . . . and the flocks are driven out on the plains and grazed in the vicinity of the water so long as the supply holds out, but . . . this is seldom prolonged more than a few weeks . . . (Mindeleff 1898:482).

Reichard wrote (1939:xvi),

> In the summer when the grass is plentiful they are pastured on the desert plains. . . . As the [early autumn] dry season waxes, the Navajo may move

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> them nearer to the mountain. He may send them with a herder, for [at this time] the family is interested in staying by its cornfields near the watercourses [for the harvest] . . .

Klethla Valley, Arizona, for example, was said by Hoover (1931:440) to be usable only during midsummer; its users otherwise lived near Tonalea or around nearby mesas. On the other hand, the spring and autumn dry seasons forced inhabitants of White Mesa, the western border of Black Mesa, and certain other mesas in this part of Arizona to move to lower elevation areas where water could be found in springs and washes. In the Wupatki, Arizona, area people moved from 4.8 to 11.3 km (3 to 7 miles) from the wooded belt used in winter to the Little Colorado River for water in summer (Van Valkenburgh 1947:10).

In addition to autumn visits to the Hopi country to trade for peaches, as mentioned by Hoover (1931:432), some Navajo – from the Tsaile area, for example – established winter camps in the Black Mesa area primarily to exchange meat and firewood for Hopi maize products. Winter was preferred for this trade both because of the seasonal demand for wood and because summertime was too hot for heavy transport (Frisbie and McAllister 1978:38-40).

When hosting major ceremonials, which require commodious structures as well as the feeding of many guests, Navajo living in tree-poor areas would often move temporarily to the mountains where plenty of wood and water would be available to accommodate guests' requirements (Frisbie and McAllister 1978:82).

Modern Factors Influencing Movements

Although nontraditional reasons for Navajo movements cannot be elaborated upon in this article, it should at least be noted that during the last several decades significant numbers of Navajo have taken temporary or seasonal jobs off-reservation with the railroads and in agriculture. Today, too, a small percentage of the Navajo (but still numbering in the thousands) have relocated in large urban areas. These moves, as well as visits between cities and the reservation, constitute modern kinds of migration, as do weekly and seasonal moves of pupils to and from boarding schools on and off the reservation (Young 1961; Lamphere 1977:23, 25, 28, 78-79; Cripps 1977).

DISCUSSION AND CONCLUSIONS

The traditional Navajo subsistence farming/sheepherding unit tended to adopt the land-use strategy and associated seasonal migration pattern which most efficiently utilized the farmland, pasture, firewood, and stock water of its territory.

In the scattered watersheds where farming opportunities were relatively great and pastoralism less developed, the summer residence was, typically, at the farm, and, if possible, a move for the winter was made to a nearby mesa or foothill area where firewood was more easily obtained. In many farming areas today, concentration of population is encouraging use of modern utilities and is thus reducing the frequency of removal to a winter homestead.

Where farming and herding resources were intermixed, as in the pinyon-juniper-sagebrush belt of the central Navajo Country, those emphasizing farming followed the lowland/summer farm-highland/winter firewood pattern of movement, but because of the close juxtaposition of resources, seasonal moves involved only short distances. In such areas nearer to the Chuska and other mountains and high plateaus, summer sheep camps were established in the mountains, and the intermediate elevations returned to for the winter. In recent decades, however, shorter growing season crops seem to have led to more permanent, farm-oriented residences at intermediate elevations west of the Chuskas, while low-country environmental deterioration, increased use of highland crops, and wood hauling in pickups appear to have shifted Navajo east of the mountains away from the lowland/summer farm-highland/winter firewood pattern and toward a lowland/winter pasture-highland/summer pasture pattern (see Hoover 1931 versus Toulouse 1975 and Lamphere 1977).

In the arid and semiarid areas of the Navajo Country's east, north, and west, especially prior to intensive government and Tribal range water development from the 1930s onward (Young 1961:174-76), many lower elevation areas were used only during the midsummer rainy season, at which time – because of temporary pools – these areas were occupied, and then abandoned with the advent of the autumn dry period. On the other hand, some herders living along the borders of certain mesas in the west were forced to move their flocks to mesa-base springs or to lower elevation drainages, where arroyo cutting had in some cases intersected the water table forming springs, or where shallow wells could be dug in the beds of the dry washes.

While the above descriptions convey a picture of the basic forms of Navajo seasonal migrations, it must be emphasized that a number of variations occur, that movements within the basic patterns are in many cases more complex than described, and that contemporary economic and cultural changes are modifying these traditional configurations.

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