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THE RAMAH NAVAHO
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FOREWORD

This paper was the last ethnographic writing on the Ramah Navaho by the late Clyde Kluckhohn before his death in 1960. The original version was prepared as a summary of Ramah Navaho culture for a projected final report on "The Comparative Study of Values in Five Cultures" project which undertook field research in the Ramah area between 1949 and 1955 and was sponsored by the Peabody Museum and Laboratory of Social Relations at Harvard University with a grant from the Rockefeller Foundation. The plans for the report on this project have now changed and do not include the various ethnographic summaries that were prepared, but instead focus upon a comparative treatment of various institutions in relation to value systems in the five cultures. Since this paper contains a brief summary of published ethnographic data on Ramah Navaho culture, as well as new materials not heretofore available, written by an eminent scholar who devoted much of his professional career to the study of the Navaho, it is most appropriate for it to appear (with slight revisions for which I am responsible) in the Anthropological Papers series of the Bureau of American Ethnology.

EVON Z. VOGT
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THE RAMAH NAVAHO

By CLYDE KLUCKHOHN

East of the Zuni Indian Reservation and south of the Mormon village of Ramah, N. Mex., lies the territory of the Ramah Navaho, who numbered 625 in 1950. Since much has been published, both in articles and monographs, on the Ramah Navaho over the years, the purpose of this paper is to digest, in appropriate form, data that have appeared in these specialized articles and monographs, to show their interrelationships, and to add hitherto unpublished materials.

HISTORY

Navahos probably hunted in and roamed through the present Ramah area as early as the beginning of the 18th century. They farmed lands in this region from about 1840 onward. After the Navaho captivity at Fort Sumner, some of the original settlers returned and were gradually joined by relatives and by men who married into the group. The founders of the Ramah band were primarily Eastern Navahos born almost exclusively in three areas: Mount Taylor, Chuska Mountains, and San Jose River. But there were also three Chiricahua Apaches and one Walapai Indian. By, roughly, 1890, the Navaho population included 23 men, 30 women, and 46 children. After about 1890, no new biological families settled in the region. Immigration was exclusively upon marriage except in the case of seven children who came with immigrating parents. After 1890, a Laguna Indian, a Yaqui residing at Zuni, and a Zuni, married into Ramah. Two Navaho men fled permanently to other Navaho groups after committing murder at Ramah. More recently, two families have left for economic reasons; one of these is likely to return eventually to Ramah (Kluckhohn, 1956 a).¹

The ancestors of the Ramah Navaho were in contact with Pueblo Indians and with various Apache tribes centuries ago. There were

¹ When all or most of the documentation for statements in a paragraph is to be found in a single source, this will be cited at the conclusion of a paragraph. Citations within the body of the paragraph refer only to the point immediately preceding.

conflicts and indeed skirmishes with the Zuni both before Fort Sumner (1864-68) and in the period immediately after Fort Sumner. After trading stores became well established at Zuni in the early eighties, the Ramah Navaho went there occasionally to trade. During the period of Navaho troubles with the American military (1848-64), some of the ancestral Ramah families spent considerable time among the Chiricahua and Mescalero, and this association was continued at Fort Sumner. Another sort of contact occurred during the expedition against Geronimo, for three Navahos who settled at Ramah in 1883-85 had served as American scouts, and two of them took Apache wives.

Ramah Navaho contacts with other Indian groups, though less frequent and sometimes indirect, are also of long duration. Since one main line of the Ramah Navaho derives from the "enemy Navaho" (Underhill, 1956, pp. 58-59) of the Mount Taylor region, some of the ancestors of the Ramah Navaho had been in at least intermittent contact with Spanish-speaking peoples since about 1750. In this area, steady relationships began after Spanish-Americans settled about 6 miles east of Ramah between 1860 and 1865. The Ramah Navaho have many stories of a fight that occurred with Spanish-Americans in this Tinaja valley shortly before the Fort Sumner captivity. In 1882, Atarque and (somewhat later) two still tinier Spanish-American villages were established at the southern end of the Ramah Navaho territory.

Even before the United States took over New Mexico some of its citizens had been in at least the area of Zuni (Telling, MS., 1952, p. 14). With the rush to California the route from Albuquerque across the Ramah country and through Zuni was traversed by a sizable number of parties, both private and Governmental (*ibid.*, pp. 15-22). The Ramah Navaho had stories of an encounter with at least one of these prior to Fort Sumner (Kluckhohn, 1956 a).

Mormon missionaries reached the Ramah Navaho in 1876 (Telling, 1953). In 1880 three traders were licensed at Zuni, and Ramah Navahos traded there occasionally as well as at Fort Wingate (Telling, MS., 1952, p. 148). Ramah village was founded in 1882. A few other non-Mormon Anglos (cattlemen and traders) settled on the borders of the Ramah country or 20 or 30 miles distant. Ramah Navaho accounts tell of a trip now and then to trade south of Gallup, at the Spanish-American town of San Rafael, and at Nutria. There were small stores in the Ramah area itself, but none seems to have had a steady existence until the late 1890's. In the first two decades of the present century more cattle ranchers, traders, and other Anglo-Americans followed the Mormons into the Ramah area. In the early

twenties, Texan homesteaders had begun to settle in the El Morro area and by 1930 the founding of Fence Lake was well under way.

The Ramah Navaho are not only an off-reservation group but are separated from Navahos contiguous to the reservation by intervening Pueblo Indian, Spanish-American, and Anglo-American populations. Hence Ramah Navaho contacts with the Government, and specifically with the Bureau of Indian Affairs, were sporadic and slight until 1942. Some of the "founders" of the Ramah band had, of course, been prisoners at Fort Sumner and participated in the tremendous shock of that experience (Underhill, 1956, pp. 119-143). After locating or relocating at Ramah after Fort Sumner, a number made one to three trips to Fort Defiance, Ariz., to obtain the free Government distribution of seed, livestock, cloth, and tools for weaving and agriculture. Otherwise, apart from an occasional brush with the soldiers at Fort Wingate over alleged livestock thefts (Navaho Indian Agency letter books for April 11, 1882), the Government was a distant and rather nebulous authority for many years.

Land Office USGS surveys were carried out in the Ramah area from 1881 on,² but the first allotment to a Navaho of an individual 160-acre plot from public domain under the Dawes act of 1887 was not made until 1908; no others were made until 1920, and the majority in the 1930's. Meanwhile, the Ramah Navaho had been pushed off most of their best lands by Mormons and others. By 1921, the crisis over land had reached such intensity that the Ramah Navaho leader, Bidaga (Kluckhohn and Vogt, 1955) made a trip to Washington, D.C., with Navaho leaders from the reservation and Franciscan missionaries (Young, 1949).

In spite of the research of Dr. Telling and others on Government publications and documents, the official relations of the Bureau of Indian Affairs with the Ramah Navaho are obscure until 1927. This may well be because jurisdiction was never clearly defined. Prior to about 1900 there is mention of occasional contact with Fort Defiance and Fort Wingate. After 1900 the Zuni Agency appears to have intervened from time to time, although its official responsibility was for Pueblo rather than Navaho affairs. Until 1905 the picture seems to have been that of leaving the Ramah Navaho severely alone except for rare incidents when Anglos or Spanish-Americans demanded intervention on land matters or disturbances of law and order. Beginning in 1905, Ramah Mormons were employed intermittently by the Black Rock Agency to round up Navaho children for school.

In 1927 the Eastern Navaho Agency was established at Crownpoint, N. Mex., and the Ramah Navaho were placed under the control of

² But were not complete 32 years later. for the Gallup Independent for May 15, 1953, speaks of surveys still going on.

this agency. The agent there visited Ramah more than once, and Navaho delegations went to Crownpoint from time to time—primarily to seek protection against land encroachment on the part of Anglos. But this was a full day's journey by automobile in those days and 2 days by horse, so that the effective relationship was minimal. In 1934 the six separate Navaho agencies were merged into one "Navajo Service" with headquarters at Window Rock, Ariz. The Ramah Navaho felt neglected (as indeed they were) by this central organization, and in 1942, on their own petition, they were transferred to the United Pueblos Agency at Albuquerque but with a nearby subagency at Black Rock. (Landgraf, 1954.)

ACCULTURATION

A properly weighted account of the degree of acculturation of the Ramah Navaho is difficult to achieve. It is all too easy to overemphasize one side or the other. By selecting certain data,³ one could convincingly depict Ramah Navahos over the age of 20 (with a handful of exceptions) as essentially "aboriginal" apart from food patterns, technology, and economy. Selecting other equally verifiable data one could picture the group as hardly Navaho at all save for language, women's costume, ceremonial practices, and a few other particulars. The truth, of course, resides at a very complicated, mixed, hard-to-specify area between these two extremes. There is no doubt that the Ramah Navaho have had long-continued and, in some respects, intensive contacts with non-Navaho cultures. All Navaho subcultures—to varying extent and in varying particulars—exhibit the results of direct or indirect Puebloan influence. Ramah is no exception. An intensive study indicates that two traits of material culture have been borrowed from Zuni during the post-Fort Sumner period. There are presumptive grounds for postulating Chiricahua and Mescalero Apache influence at Ramah but it has not been possible to identify any elements with certainty.

As far as change deriving ultimately from European cultures is concerned, one can of course point immediately to domestic animals, certain cultivated plants, work in silver, and many features of diet and material culture. Dependence upon the American Government and the larger American economy have had their consequences.

³ For example, students of the Navaho are agreed that the wearing of the hair knot by men (and especially younger men) is a good index of conservatism. At Ramah, in the 1940-50 decade, not only six old men but three boys under 20 held to this hairdress. This is a high proportion for this date. Another evidence of Ramah conservatism is that this is one of the two or three areas where pottery (both painted and cooking) was made (as late as 1938; cf. Tschopik, 1941) and one of a very few areas where Navaho basketry is still made. Finally, one could note that polygyny remains more common at Ramah than in all save two or three remote and inaccessible Navaho local groups.

American law and religion have had a gradual and increasing effect upon such matters as inheritance custom and residence. Some of the acculturation listed above began long before Fort Sumner. Other aspects started effectively during that period but were intensified by relations with non-Indians at a tempo that has increased steadily ever since 1870. The coming of the railroad to Fort Wingate and Gallup in 1881 ushered in the period when many Ramah Navahos were thrown into frequent and regular relationships with non-Indians. Both Ramah and Atarque were founded in 1882, and the presence of a railroad only 40 miles away was the basis both for subsequent immigration into the area and for far-reaching economic changes. The Mormons have been the primary agents of acculturation for more than 70 years, though others—such as the two brothers from England who purchased the Ramah Trading Company in 1901 and were very friendly to the Navaho—have also been of considerable importance. Still, it is hard to specify influences that are distinctively Mormon as opposed to those of generalized American culture. There is one that appears certain. As opposed to other Navaho areas, gambling has been absent or notably infrequent at Ramah. The Ramah Navaho unanimously attribute this to the acceptance by the first headman of the Mormon injunction against gambling.

Purely religious teachings do not appear to have gone very deep. The early records of the Ramah Ward of the Mormon church list more than 30 Navahos as baptized, though it is not certain that all of these were Ramah Navahos. The records do from time to time speak of as many as 10 Navahos as present at Mormon church services. These numbers, however, decreased with the passage of time. This shift was doubtless due in part to the linguistic difficulty. Even more, it may be traced to mounting Navaho resentment over land quarrels and discriminatory practices. For example, from the eighties until the thirties, Navahos, even those who were professed Mormons, were refused burial in the church cemetery (Telling, MS., 1952). As of 1923, when I first visited Ramah, only one Navaho attended Mormon services (from time to time) with anything approaching regularity. A few others were nominal Mormons but, in fact, participated almost exclusively in the native Navaho religion. This situation continued until the coming of Mormon missionaries from Utah in 1946 and the building of a small Mormon church for Ramah Navaho in 1949 (Rapoport, 1954). Even in the decade following 1946, the lives of only a tiny number of Ramah Navahos were other than superficially affected by Mormonism. And prior to 1944 or 1945 no Ramah Navahos were believing or practicing Christians of other denominations, although a number attended Christian services while at school and in some cases professed Christianity temporarily. By 1950 there were

20 or more adults (primarily women) who were staunchly or weakly committed to a Fundamentalist Christian faith. No Ramah Navaho has ever been a Roman Catholic, although in the early days at Tinaja the Spanish-Americans made some efforts at conversion, giving Christian names, serving as godparents, and the like.

All in all, in 1950 the customs, thought ways, and values of the Ramah Navaho were dominantly Navaho. Not more than 20 individuals, all of them under 40 years of age, would have to be excepted from this generalization. Many more, to be sure, had absorbed to some degree European ideas and values as is reflected in the intricately mingled responses to the value-orientations questionnaire (Kluckhohn and Romney, 1964). There were, and are, local differences. In general, Navahos residing habitually within 5 or 10 miles of Ramah village are appreciably more acculturated than those living in the less accessible areas farther south and southeast. World War II did initiate a period of accelerated culture change affecting the whole area. Twelve Ramah Navahos were in the armed forces for various periods (Vogt, 1951). A much larger number of men, sometimes accompanied by their wives and children, were employed for weeks or months outside the Ramah area. This began the habit of wagework away from Ramah for weeks or months which has been followed by many in the economically difficult years since 1946 and especially following the droughts of 1950 and 1951.

Nevertheless, all who observed other than superficially the daily lives of Ramah Navahos in the 1950 epoch agree that most of these lives, apart from material circumstances and small changes in social organization, were far more similar to those of their grandparents than to those of their contemporary non-Indian neighbors. One is tempted to say that in the intangible realm almost the only major and general consequence of contact with Anglos was the distrust and bitterness engendered by reason of the land struggle and sharp practices on the part of traders and other non-Indians. This resulted, in fact, in a sizable amount of antagonistic acculturation: That is, some Navahos consciously and deliberately returned to heightened participation in such ancient Navaho customs as the sweat bath.

The prime barrier to Navaho acculturation in thought ways and values was, of course, linguistic. To appreciate realistically this factor and others, one must enlarge the historical perspective with various concrete details. The first Ramah Navaho went to school at Fort Defiance in about 1886. He attended, however, for only a year and returned to become one of the area's leading ceremonial practitioners. To the end of his life his total English and Spanish vocabularies combined did not amount to 100 words. His kinsman who went to Fort Defiance the next year stayed only a few months. There is a

record of another Ramah Navaho being sent to school in 1894. The first concerted effort to send children to school, however, appears to have been in 1905 when 10 children were taken to the Albuquerque Indian School. They remained from 1 to 4 years without acquiring much English, though two of the men did attain a modest competence in English later in life as a result of sustained experience with Anglos. None of these acquired English as an effective means of communication. It was 1917 before a young Ramah Navaho returned to the area with sufficient knowledge of English to be able to act as interpreter in even rudimentary fashion.

Of the population over 20 in 1940, 28 men and 19 women had attended school (either Government or mission). Of these, however, only 36 had attended school for 4 years or more and 11 for 8 years or more. Of Ramah Navahos alive in 1950, 36 men and 28 women had attended school; although a number of them for only a year or less. Of these, 17 men and 13 women had had from 4 to 8 years of schooling; 7 men and 9 women had 8 years or more. But it is easy to misinterpret the consequences of these figures. Several points must be borne in mind. Eight years at school does not mean that the individual had graduated from the eighth grade even in an Indian school. The command of English (oral and written) of a high school graduate is ordinarily not equal to that of an eighth grade graduate in the United States generally. And in 1950 there were only two high school graduates among the Ramah Navaho—none in 1940. Moreover, it is hard for those who have not observed these phenomena directly to understand how much English a Navaho who has little occasion to use the language can forget in, say, 10 years. This is particularly true of women living at some distance from the village of Ramah. Some of these who had 8 years of school cannot today manage a few simple sentences in English. This factor is counterbalanced to a slight extent by those (almost entirely men) who had little schooling but who have picked up some command of English by association with Anglos on jobs.

In 1940, four men (all except one in their early twenties) and one woman (born away from Ramah) could translate from English to Navaho and from Navaho to English if communication was kept quite simple and concrete. "Hard words" in either language stumped them. Of the remainder of the "schooled" Navahos, many had largely forgotten the English they had known on leaving school. Elementary conversation was possible with 10 men and 3 women, in addition to the 5 mentioned above. By 1950, thanks both to increased enrollment in schools and to World War II experiences, the number of men over 18 years of age who could speak "basic English"

had risen to 28 and of women to 9. On the other hand, the number of possible interpreters had increased by only two men and one woman.

Acquaintance with the Zuni and Spanish languages is limited to a small number of individuals and in no case approaches fluency. One must take with extreme caution the glib statements of local residents (from all five groups) that such-and-such a Navaho "speaks good Zuni" (or Spanish). A Navaho who has a Zuni vocabulary of 50 (or even 25) words impresses a Spanish-American or Anglo—or another Navaho—who knows no Zuni beyond, possibly, a phrase of greeting and another word or two. Careful observation, testing, and inquiry have established the following facts. Of two Ramah Navaho men and three women who had numerous Zuni half-brothers and sisters, one man had a Zuni vocabulary of perhaps as many as 500 words, the other man knew considerably less, and the women knew no more than a few kinship terms and phrases about the weather, food, and crops. Of three Navaho women married to men from Zuni, two could speak "kitchen Zuni" and the other spoke with her husband and his relatives entirely in English, although recognizing something of the order of 300 Zuni words and uttering, on occasion, possibly as many as 100. No other Ramah Navaho has in recent times, at least, had a Zuni vocabulary of 100 words, and only two or three men would reach that level. In all, not more than 20 Ramah Navahos know more than, at most, 10 words of Zuni.

In contrast, many adult Navaho men, and some women, have a 20- or 30-word Spanish vocabulary. This is because they have so often had the experience of working for or with Spanish-Americans. About 15 Navaho men (as of 1950) could carry on an elementary conversation concerning trade, locations, livestock, and daily events. Two or three of the older men had acquired this knowledge during the 19th century when Spanish was the lingua franca of the area. An additional eight or nine had herded for Spanish-Americans long enough to learn basic Spanish. Most of these live in the southern portion of the Ramah Navaho area, but a few have worked for Tinaja and San Rafael families. Only a very few Navahos born after 1920 have more than a tiny stock of Spanish words and phrases.

One must, of course, make the inquiry in reverse. How many Zunis, Anglos, and Spanish-Americans have been able to speak Navaho? For centuries Pueblo Indians have learned Navaho, rather than the reverse, and Zuni is no exception. A number of Zuni men can speak Navaho easily and colloquially, but, apart from two cases of intermarriage, these have had only transitory relationships with Ramah Navaho. One of the early Mormon missionaries who lived into this century spoke fluent Navaho. A Navaho, raised as a Mexican at Tinaja, continued to speak his language of birth. These cases,

however, are unique as far as the Anglos and Spanish-Americans are concerned. Local folklore names a number of individuals as "speaking good Navaho." In fact, only four Mormons can carry on a simple conversation in pidgin Navaho. A few other traders and stockmen know perhaps 300 terms for numerals, objects, and the like. They can bargain for crops and livestock or for workers, can ask distances, and talk about births and deaths. Two or three Spanish-Americans also fall into this group. Other Anglos and Spanish-Americans are limited to, at most, a small handful of stock phrases.

This language barrier has sharply restricted the influence of non-Navahos even upon those Navahos who have for longer or shorter periods seen Pueblos, Anglos, or Spanish-Americans daily. The net result is that the Ramah Navaho, in spite of living among and surrounded by non-Navahos, are less acculturated than certain reservation Navahos who have been much more deeply affected by schools and missionaries. The first school for Navahos in the Ramah area was not built until 1943, whereas the reservation was dotted with schools by 1910. For about 10 years (roughly 1876-86) the Mormons made strenuous missionizing attempts, but the results did not reach below the surface, at any rate as far as fundamental ideas were concerned. Thereafter Mormon missionary work languished at a perfunctory level not to be resumed actively until 1946 when a full-time mission team was assigned to work among the Ramah Navaho.⁴ This was probably in competitive response to the activities of a Fundamentalist missionary who took up residence near Ramah in 1944 (Rapoport, 1954). This missionary venture was the first (other than a few brief and casual visits) since the early Mormon endeavor.

The psychological test administered by the Research in Indian Education Program (1942-43) indicated that the Ramah Navaho were midway in acculturation between the remote Navajo Mountain band and the Shiprock group on the Navajo Reservation (Leighton and Kluckhohn, 1947). This judgment accords with relevant specific data and with the general impressions of anthropologists and non-Ramah Navahos. Reservation Navahos who have visited in the Ramah area or worked with Ramah Navahos on the railroads or elsewhere often make comments to the effect that the Ramah group strikes them as conservative or "backwoodsy."

All in all, the Ramah Navaho are as representative of the Navaho people as a whole as any other single local Navaho population. One of the characteristics of the Navaho in general is the heterogeneity of

⁴ In April 1952, 100 Navaho men, women, and children were carried on the rolls of the Mormon church in Ramah. The records show, however, that only six of these had been confirmed or blessed prior to 1948. Five had risen in the hierarchy to the rank of deacon, two to priest, and only one to elder. All evidence indicates that the affiliation of most of the 100 had been, to say the least, highly nominal.

biological and cultural origins. To be sure, there is phenotypic evidence (light skin and hair color) of European ancestry in certain family lines at Ramah, but the historical circumstances under which the whole Navaho tribe absorbed some European genes are well known (Underhill, 1956, pp. 79-81). Within this century one Spanish-American and two Anglos indisputably fathered Ramah Navaho children, and there are several other highly probable cases. Yet a blood-group study may indicate "relative freedom from White mixture" (Boyd, 1949, p. 572) as compared with other Navaho and American Indian samples. It is likewise true that one may point to several Chiricahua Apache women, one Zuni man, one Laguna man, one Walapai, and one Yaqui man as ancestors of some of the present Ramah Navahos. But the Canyon De Chelly Navaho had many Hopi ancestors, there is much Ute admixture on the northern borders of the Navaho country, and Eastern Navahos are aware of ancestors from Jemez and from Rio Grande Pueblos. Essentially "all" Navahos, if the full facts were known, would be found to have very mixed ancestry. Indeed, for the Ramah Navaho there are presumptive but definite grounds for postulating, more remotely, Mescalero Apache, Ute, and Jemez progenitors (Kluckhohn, 1956 a).

As for culture, there has certainly been some Zuni influence upon the Ramah band just as there have been Paiute borrowing by the Navajo Mountain group, Hopi influence upon many west-central reservation localities, Chiricahua-Mescalero influence upon the Alamo-Puertocito Navaho band, etc. Actually, it is difficult to specify Zuni borrowings at Ramah other than two that are shared by various other Navaho groups influenced by Zuni; the use of outdoor bake ovens and the painted pottery formerly made by Ramah Navaho women (Tschopik, 1941). For specifically Spanish-American effects upon the Ramah Navaho one can do no more than point to some details in the handling of sheep. Except for the few Navahos who follow Mormon religious practices and observe Mormon restrictions upon the use of coffee, liquor, and cigarettes, borrowings from Anglo culture are indistinguishable from those characteristic of other Navaho groups who have had about the same amount of contact.

Each Navaho local group has some distinctive features as a consequence of its geographical position and particular historical experiences. So far as the Ramah Navaho are concerned, one should not overlook the consequences of the fact that they were not like captive animals herded onto a reservation. Rather, at least until 1940, they led a normal (if isolated and rural) competitive life. Before 1940 Government protection and assistance (economic and otherwise) amounted to very little.

Unless one adopts highly arbitrary (and probably somewhat romantic) standards, there has not been—certainly since Fort Sumner—such a thing as “pure Navaho culture” any more than one can specify a “pure Navaho biological type.” There are a few particulars (such as absence of ceremonialists who can conduct the most elaborate chants and the lack of famous weavers and silversmiths) in which the Ramah Navaho resemble other bands (Canyoncito and Puertocito-Alamo) separated from the main Navaho country. But, in the large, Ramah Navaho culture is no more deviant from “standard Navaho” than are the local variants on the reservation. This is proved by the manner in which data from Ramah are no more distinctive in comparative studies than are data from other areas.⁵

The best statement that can be made is that Ramah Navaho culture is one variant of generalized Eastern Navaho culture. Even this must be qualified, however, for a preliminary check of the detailed study of Ramah Navaho material culture (Kluckhohn, Hill, and Kluckhohn, 1965) indicates, surprisingly enough, a closer correspondence to Gifford's Western Navaho trait list than to his Eastern. On the other hand, the language is undoubtedly of the Eastern variety both as regards vocabulary and idiom.

MATERIAL CULTURE AND ADAPTATION TO ENVIRONMENT

This is not the place for an exhaustive review of Ramah Navaho material culture, but some summary statements drawn largely from two detailed studies by Roberts (1954, 1957) and from a long manuscript by Kluckhohn, Hill, and Kluckhohn (1965) may be made. The Navaho make or made objects from wood, stone, hide, wool, metal, and minerals. In recent times paper and glass have also been used. Horn and bone are almost entirely neglected, appearing in only one or two items each. The dominant woods are juniper, piñon, pine, and oak. The first two named are used chiefly for building materials, firewood, and wooden utensils which are of a relatively temporary nature. Oak is the main hardwood and is used in making handles for implements, digging sticks, battens, and bows. The principal stones used are flint, sandstone, and lava rock. Flint was obtained from Pueblo ruins and was used for knives, scrapers, drills, and arrow points. Today its use is almost exclusively ceremonial. Sandstone was used for arrow smoothers, pot supports and smoothers, and other purposes. It is still used as building material and (along

⁵ See, for example, Hill, 1940, 1943, 1948; Kluckhohn, 1944; Kluckhohn and Wyman, 1940; Wyman and Kluckhohn, 1938; Wyman and Harris, 1941; Wyman, Hill, and Osani, 1942.

with lava rock) for grinding stones to prepare food and sand-painting minerals. Clay was until recently used for pottery and (like red ocher) for pigment. Alum is used as a dye mordant.

The use of animal products is or was more extensive, although hide and sinew are the chief parts of the animal used in the construction of objects. Bone was used only for awls and for reamers and arrow straighteners. Horn was used only for arrow straighteners and as containers for medicine. Hides were used for clothing, armor, shields, bedding, hafting tools, carriers, waterbags, and lines. They were boiled to form glue and used for sewing in the form of thongs. Sinew was used for sewing and for the bowstring as well as for the backing of the sinew-backed bow. Rabbitskins were used in bedding; squirrelskins and other furs in bags and in ceremonial equipment. Mountain lion skin was used only for medicine bags, quivers, and war caps.

The other main category of materials is that of fibers (vegetable and wool). Wool plays a major role but is used mainly for articles that were once made of hides: bedding, shirts, sacks, cords, and threads. On the other hand, it is not used for ceremonial articles which must be made of buckskin. Flexible plant fibers, roots, and leaves were used in basketry and matting and in the making of temporary ropes and paintbrushes.

Some materials are gathered and stored against future need (wool, buckskin, dyes, coils of basket material, sacks of sand-painting pigments). In general, however, only materials which have to be imported from a distance or which are seasonal are likely to be kept on hand. Processing of most materials is minimal. The main exceptions are silverwork, rugs, pottery, and tanning. The tendency is for the Navaho to be a tool-using rather than a tool-making people.

Sexual division of labor was clear cut on only a few points. Both men and women may weave⁶ and do silverwork. In Navaho theory, house construction (except for plastering) and working with buckskin are male tasks, but over the past 20 years we have observed women participating in both these occupations. Ritual objects are made only by men, and in the past the manufacture of hunting and war equipment was exclusively male. Only women made baskets and pottery (except for clay hunting pipes which were made by men).

The use of tenses in the foregoing paragraphs has been difficult and not fully precise because of culture change. A full listing by items would achieve accuracy but be intolerably long. But let me give a few illustrations. No shield has been made by the Ramah Navaho in this century and probably not since Fort Sumner. Pottery has

⁶ Only two Ramah men are known to have done weaving.

not been made since 1938. There are variations by sub-area as well as in time. For instance, I have not seen a bow and arrow made or used within 10 miles of the village of Ramah since 1936. On the other hand, I have seen these articles both made and used 30 miles south of Ramah as recently as 1948.

A few simple and rather obvious generalizations can be made. There has been a steady increase in the buying of articles from trading stores as opposed to home manufacture. As of 1950, only four or five elderly men still made and wore moccasins. In 1936, the Ramah Navaho possessed only 3 iron bedsteads; in 1950, they owned more than 30. In 1936, only two Ramah Navaho families had automobiles. In 1952, they owned 39⁷ automobiles (more than half of them pickup trucks and more than half manufactured prior to 1942). Three possessed Ferguson tractors and planters; about 35 had plows and cultivators. Native foods (see Bailey, 1940) are less and less frequently prepared except that sheep and corn are still ordinarily cooked in the old styles. About 5,000 pounds of meat was dried in 1951. Ritual paraphernalia is still made, but the number of individuals who have requisite knowledge decreases each year. Moreover, as Tschopik (1938) has documented in the case of basketry, the sheer ritualization of some features of material culture has tended to make for the obsolescence of these objects.

Another dimension of material culture has been beautifully documented by Roberts (1951) who examined the complete inventory of three contiguous households to a total of 578 items. Of these, 154 were held in common by all three households, 58 were possessed by *A* and *B*, 50 by *B* and *C*, 33 by *A* and *C*; 89 existed only in *A*; 185 in *B*, and 109 in *C* (p. 77).

The general environmental setting has been considered elsewhere in this volume. Here I shall review briefly only some features of the specifically Navaho adaptation. Of the 456 uncultivated plant species collected in the area, there were only 3 for which no Navaho name was given when shown to two or more informants, and for 1 of these a use was stated. This does not mean that every plant is well known, but it does mean that the people are observant of their botanical surroundings and can readily distinguish between plants of major, secondary, or minor importance in their lives. Even the very young children know the names and uses of the common plants. The vegetation enters into the lives of everyone from birth until death. Poisonous plants are a threat to livestock; many plants have magico-religious and/or economic significance. The uses of plants are multiple, and from the Navaho standpoint they fit into that

⁷ Most families lacking automobiles have wagons.

harmony of related parts which is the Navaho view of the universe, and with which people must make harmonious connections for an abundant life. (Vestal, 1952.)

By far the greatest number of plants are used as medicines, either in association with ceremonials or as home remedies during parturition and nursing and for stomach ache, tooth ache, constipation, and sores. Only one narcotic (*Datura meteloides*) is known, and this is used only as a last resort to control excessive pain and only by those who possess ritual qualifications. Some plants are used for good luck in gambling or trading. Bows, arrows, dyes, ceremonial equipment, baskets, and household articles are made of plant materials. Wood is important, of course, for fuel and for constructing dwellings. Uncultivated food plants are of minor but varying (between families) importance in the total economy, with the exception of the piñon nut which is frequently a major source of income. Tubers, seeds, fruits, and bulbs are eaten. *Yucca* is used both for food and to provide a shampoo. Gums and resins are used as chewing gum. The principal cultivated crops are maize, beans, squash, melons, and potatoes. A few families raise small acreages of oats, wheat, alfalfa, and garden vegetables. In 1941, the Ramah Navaho cultivated 158 pieces of land (ranging in size from less than an acre up to 100 acres) amounting to approximately 3,000 acres. Manuring and other "modern" farming methods were hardly followed at all, though two large fields were tractor plowed in the 1950 period. Yields are poor owing to farming practices, inferior seed, and uncertain weather. (Vestal, 1952.)

In absolute terms the contribution of wildlife to the diet of the Ramah Navaho was, as of 1950, trivial. To the poorer families, however, rabbits, porcupines, other small animals, and an occasional deer⁸ sometimes made the difference between nourishment and hunger. The abundant birds are almost never eaten. Various animal pests plague the cultivated fields, and coyotes are a danger to sheep, especially in winter. Actually, as O'Donnell (MS., 1950) has shown at length, the greatest significance of animal life in recent times has not been economic but ritual. Many mammals, reptiles, and birds are not only tabooed as food but also pose all sorts of supernatural dangers and are constantly described as sources of illness.

In 1950, the Ramah Navaho controlled 153,600 acres of land.⁹ The amount used for dry farming is said to have dropped to 1,085 acres;¹⁰ 1,640 acres were *malapais* or other land utterly barren and

⁸ Thirty, for instance, were killed in the fall and winter of 1941-42.

⁹ The 1945 figure (Bureau of Land Management statistics) was 143,313 acres of which Navaho allotments comprised 43,331, Navaho homesteads 1,600, with the remainder leased from the Federal and State governments, the Santa Fe Railroad, the Pueblo of Picuris (52,169 acres), and White owners.

¹⁰ This figure is from Indian Service Extension reports, 1951. It is almost certainly too low, but field observations indicate a substantial drop from 1941.

waste; 126,355 acres were used for grazing. Each household had at least one relatively permanent cluster of establishments, usually with one or more adjoining fields. Clusters encompassed as many as 15 buildings of various kinds. In addition, many of the kin groups had one or more smaller, rough and temporary establishments or camps at various distances from their larger clusters of buildings. Each permanent establishment included at least one hogan, made of logs laid in saddle-notched fashion to form a hexagonal or octagonal dome-shaped structure, surmounted by an open smoke hole and roofed and floored with earth. At most clusters there were also small, rectangular log cabins, many of which were equipped with a window, fireplaces, and heating or cooking stoves of iron. There were other structures for storage; "shades"; corrals of logs, brush, or wire; and small sweat houses. Water for household use came from nearby surface accumulations or stock tanks or wells constructed by the Government. (Landgraf, 1954.)

LIVELIHOOD

In 1951, the Ramah Navaho owned 7,318 sheep, 580 goats, 199 cows, 460 horses, and a small number of mules, burros, swine, and poultry. Because of drought conditions prevalent in 1950 and 1951, these figures are sizably smaller than during the first years of the values study and the 10 years preceding. The dipping records for 1941, for instance, show 17,885 sheep and 1,055 goats.¹¹ The differential ownership by families in 1951 is shown in table 1.

TABLE 1.—Ownership of livestock, 1951

Livestock	Distribution of 126 families														
	None	1-5	6-10	11-20	21-30	31-40	41-50	51-75	76-100	101-150	151-200	201-300	301-400	401-500	Over 500
Beef cattle.....	119	6							1						
Sheep.....	55	2	6	8	4	4	5	10	8	4	9	5	2	3	1
Goats.....	67	17	16	17	4	4	1								
Swine.....	123	3													

Let us explicate this table in other terms. Of all Ramah Navaho families, 44 percent owned no sheep. One extended family owned 9 percent of all sheep, and six other families controlled from 4-6 percent of the total. In part, this wide variation is the consequence of the Government livestock system being based on herd counts of a selected year. The same kind of inequality is reflected in access

¹¹ Fluctuations have apparently gone on for many years. The Annual Report of the Department of the Interior (1919), vol. 2, p. 243, states that in 1918 the Ramah Navaho had 7,000 head of sheep; in 1915, 10,000; and in about 1908, 12,000.

to land; eight families use 160 acres or less, while four families have rights to 10-30 sections.

Total income from animals in 1951—sales of wool, lambs, hides, and products consumed at home—may be estimated at about \$70,000. The comparable 1943 estimate was \$40,000. The value of cultivated plants (corn,¹² cereals, squash, melon, beans) eaten was probably in the neighborhood of \$5,000. Cash income from waged work in postwar years has averaged at least half as much as livestock income. Each year Ramah Navahos have worked as railroad section hands; as pickers of beets, carrots, and cotton; as farm and ranch hands, herders, loggers, etc. In 1951, 23 men earned a total of \$12,000 on the railroad, and they and others gained \$24,000 from other work, locally and away from Ramah. Handicrafts (rugs, silver, beadwork) brought in about \$1,500. Welfare and other Government benefits brought some \$23,000 into the community. Other miscellaneous income (trade, gathering, sale of timber, fees of ceremonialists and herbalists, etc.) might have accounted for as much as \$3,000. A very rough estimate of per capita real income would be \$230.

There is a per person indebtedness of approximately \$100. This is owed primarily to the trading stores, advanced against wool and lamb crops or secured by the pawning of jewelry, saddles, guns, and other articles of value. The stores charge 10 percent on overdue accounts. Probably less than 12 percent of Navaho buying in the Ramah area is by cash.

For 1941, Landgraf (1954) characterizes Navaho purchases as consisting largely of food and clothing but with relatively sizable investments in machinery, automobiles, and tools from time to time. The bulk of the food purchases were flour, fruit, sugar, coffee, and cooking fat. The greatest changes in consumption patterns that took place between 1941 and 1951 were increased gasoline sales, more money spent in car repairs (perhaps \$5,000 in 1951), more purchase of medicines, and closer approximation of Anglo-American buying of food and clothing. In 1951, Ramah Navahos bought almost everything that Ramah Whites bought at the trading stores except canning equipment, cooking spices, and electric light bulbs. The Navaho purchased little feed for livestock, although a few owners bought bales of alfalfa, cotton cake, and grain. Expenditures for wine, liquor, and beer are not inconsiderable, but I would not venture even an estimated total annual figure.

Hobson (1954) sums up Navaho economic values as follows:

. . . wealth accumulation is a primary preoccupation. A high valuation is placed upon the possession of land, livestock, houses, clothes, and jewelry. The

¹² Navaho corn yields average 600 pounds to the acre, beans 400.

stress is not only on quantity ("lots of property," "big herds," "plenty to eat"), but on quality ("nice things to wear," "good horses"). . . . the statements examined evidence a surprisingly intense interest in making money, saving money, and getting wagework for money as well as a depreciation of losing money through gambling. The value placed on money (though not on property) may be regarded as an index of acculturation. [Ibid., p. 28.]

Sheer accumulation of wealth is of less importance than its display or its generous distribution. . . . Through the possession of property one can "go anywhere without being ashamed." The way to earn money, to acquire property, and to become a rich man is by working hard.

But far outweighing hard work as a means of accumulating wealth is the caution to preserve one's possessions.

. . . a set of socio-economic values which regulates the accumulation of wealth and dictates the manner of its distribution: "don't be too rich," "never get poor," "look after your family," and "help people out." [Ibid., p. 29.]

OCCUPATIONAL SPECIALIZATION

In 1950, there were 21 ceremonial practitioners including those who practiced divination by hand trembling. The only singer of considerable standing died in this year, and his death left his two brothers (one not a singer but a practitioner of Blessing Way) as the only respected ritualists, though there were a number of "mouth-put men" (i.e., "amateurs" who know only excerpts of a rite and its accompanying myth). Eight individuals (four of them women) practiced divination. All ceremonialists gained some income, but only the one singer, the conductor of Blessing Way, and three of the diviners devoted a significant segment of their time to these activities. There were also four recognized herbalists (three of them women) who gathered plants for rites and as folk medicine (including herbs for abortion and birth control).

One man and his two wives were silversmiths at this time. Thirty-three women did some weaving, but only seven or eight could be considered regular weavers. The last potter was dead. Only one woman still made baskets. Three elderly men made moccasins for sale as well as for themselves and their families. Some men and some women had reputations for special skills as shearers of sheep. Otherwise the only occupational specialization was along sex lines: Women primarily but not exclusively did the cooking and looked after the children; men broke horses and looked after cattle; the sheep were cared for by children and by adults of both sexes; and heavy farmwork was carried out mainly by men, with women and children doing the weeding and other lighter work. Ramah women do not sing at ceremonials, but women singers have been imported from other areas.

DEMOGRAPHY

BIRTHS

From 1871 to 1949 (inclusive) there were 1,105 established conceptions by period and sex as given in table 2. Twenty-three of these conceptions are known to have resulted in the death of the mothers. Live births totaled 984.¹³ Of these, 122 died within the first year of life and 28 more during the second year. Of the 605 live births at Ramah prior to 1935, 210 men and 216 women reached adulthood as determined by one or more of the following criteria: marriage, known first menstruation, and age of 16 in the case of boys.

TABLE 2.—*Conceptions from 1871 to 1949*

Period	Sex			Total
	Male	Female	Unknown	
1871-90.....	27	28	1	56
1891-1919.....	157	149	7	313
1920-49.....	300	321	25	646
Total.....	484	498	33	1,015

Of 53 women assumed to have passed the childbearing age, and when full facts are available, the number of known conceptions is as listed in table 3.

TABLE 3.—*Known conceptions of 53 Ramah women*

Number of conceptions..	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Number of women.....	5	1	2	1	1	4	2	4	4	5	7	5	7	2	3

The modal numbers for conception are 10 and 12. The average number of conceptions per woman is 8.04. While only those cases were included where the data are considered approximately complete, there is no doubt that these figures are on the conservative side because of stillbirths not reported and perhaps a few children who died as infants many years ago and whose births and deaths were not recol-

¹³ One parent of approximately three-fourths of 1 percent of these was non-Navaho (23 had a Chiricahua Apache parent, 13 a Walapai parent, 8 a Laguna parent, and 6 a Zuni parent; 5 definitely or more probably had a local White as father, and 1 a Mexican). These are not, however, sufficient figures upon which to base any estimate of non-Navaho genes. There are two reasons: Family tradition and phenotypic evidence indicate non-Navaho ancestors prior to 1870; and some spouses in the "founding" generation are known to have been half-Chiricahua. Of all marriages recorded in the genealogies, slightly under 3 percent were with non-Navaho.

lected. Twelve pairs of twins (all except one of like sex) have been born since 1874.¹⁴

Of those who had reached adulthood by 1950, there is a presumption that seven men and five women are infertile because all of these had married at least two different individuals and failed to have children. Three other men and one woman had a single marriage of 3 years or more duration without conception resulting. Lack of fertility seems to attach to a limited number of family lines. Four of the men and two of the women who have had two or more marriages, and all three of the men with a single marriage, are closely related, all being descendants of the Chiricahua Apache women who married at Ramah. Three of the other women with two or more marriages who are infertile are full sisters.

MARRIAGES AND AFFAIRS

Fertility is increased by the early age of marriage. Before the Ramah Navaho went to school in any numbers, girls were, with very few exceptions, married within a year or two after their first menstruation. Even in the 1940-50 decade, nine were married at 16 or under, but the average age of first marriage had climbed to 17.7.¹⁵ Prior to 1910 (and in a sizable number of cases thereafter), it was rare for a boy to be unmarried at 19, and some were married at 15 and 16. In the 1940-50 period, the average age of first marriage was 19.9.¹⁵ Total cases of first marriages occurring from January 1, 1940, to September 1, 1950, are as shown in table 4.

TABLE 4.—Total cases of first marriages occurring January 1, 1940, to September 1, 1950

Sex	Age at marriage															
	13	14	15	16	17	18	19	20	21	22	23	24	25	26		
Male.....	0	0	1	0	2	6	2	6	5	3	1	1	0	1		
Female.....	2	1	1	5	7	5	4	2	0	1	0	1	1	0		

Fertility is also increased by the existence of polygyny. In the 1871-1950 period, there were 51 polygynous marriages at Ramah. Forty-seven of these involved only two wives at any particular time. The remainder involved three wives simultaneously. Some of these marriages have been polygynous for only comparatively short periods because of death or divorce. In other instances, the older wife had passed the reproductive age at the time of the second marriage or very shortly thereafter. The pressure of missionaries and (occasion-

¹⁴ This is even higher than the figure reported by Jeffreys (1953) in his survey of African twin data.

¹⁵ In these estimates, only cases are used where the ages of the individuals are quite reliably determined.

ally) of the Government and the general influence of non-Indian culture has diminished a little the incidence of polygyny during the past 20 years. However, in 1950, nine men were still living with two wives. Over the 80-year period, polygyny has surely contributed to the fertility of this population.

Finally, it may be presumed that the strong tendency for Ramah Navahos to mate during their lifetime with two or more different individuals affects fertility, since impediments to conception or live birth in one marriage may disappear with a change of partners. Table 5 gives the figures by marriages and by "affairs." It is necessary to include the latter category because of the existence of unions of longer or shorter duration which the Navaho, speaking in their own language, refuse to term a "marriage" but which are more or less publicly recognized as such. Entered in the tabulation are only those instances where either publicly acknowledged children resulted or where the association went on steadily for at least a few months. Cases in which gossip reports or an individual in question admitted to intercourse on one or a few occasions are not included. In a few instances, informants disagreed as to whether a union did or did not constitute a "marriage." I have tabulated as "marriages" only those cases where all or a vast majority of informants agreed on this judgment. For purposes of human biology, it makes no difference, of course. But for purposes of social organization, there is a significant distinction.

TABLE 5.—*Marriages and "affairs" by age group and sex*

Age group ¹	Sex	Number of individuals involved in indicated number of marriages									Number of individuals involved in indicated number of "affairs"		
		None	1	2	3	4	5	6	7	Total	1	2	3
30-40-----	M-----	2	16	15	5	3	0	0	0	41	4	3	0
	F-----	4	21	0	6	1	0	0	0	41	4	4	2
41-50-----	M-----	1	8	11	7	1	1	1	0	30	5	0	1
	F-----	2	5	9	5	1	0	0	0	22	2	0	0
51-60-----	M-----	1	5	7	6	4	1	0	0	24	4	0	0
	F-----	2	10	4	1	1	1	0	0	19	3	0	0
Over 60-----	M-----	0	1	11	4	5	3	0	1	25	2	1	0
	F-----	0	10	11	4	1	1	1	0	28	4	2	0
Total-----		12	76	77	38	17	7	2	1	² 230	28	7	3

¹ As of 1950 or at time of death.

² Subtotals for married individuals only: 120 male; 110 female.

The average number of marriages for men and women (who married at all) in three age groups is informative (table 6). These figures would be somewhat increased if one added the affairs. Again, however, an underestimation both for marriages and affairs must be presumed. Some of short duration were undoubtedly forgotten or

deliberately not reported. In respect to individuals who died prior to 1910, there were instances where no person was alive after 1935 who was in a position to give complete information on the marriage record. Table 5 shows four individuals in their thirties who had been married four times. Actually, of individuals in their twenties in 1950 or who died before reaching 30, two women and one man had already married four times, one man and one woman three times.

TABLE 6.—Average number of marriages among Ramah Navahos

Age group ¹	Men	Women
30-40.....	1.9	1.7
41-50.....	2.3	2.1
51-60.....	2.5	1.8
Over 60.....	3.0	2.1

¹ In 1950 or at age of death.

It will be noted from table 5 that only one man past the age of 60 had had only a single marriage. As a conservative approximation—at least for the period before the intensive acculturation of the last 15 years—we can make the following statements. It was very unlikely that any man would reach old age without having been married to at least two different women. A great many would have had three wives and a considerable number four or more. A fair number of women would have had only a single husband by the age of 60, but many would also have had two, three, or more. Most fertile men and women who lived to the age of 60 would have had children from at least two different spouses.

One other matter requires explicit mention. Ramah Navaho men who reached the age of 30 without marriage, are not known to have had children through affairs. This does not apply to the women. Of the 12 women who had not married by 30 or later, 3 had had 1 or more children. Also, a number of women who have been widowed or divorced for some years have continued to bear children.

Table 7 presents the age and sex composition of the population as of September 1, 1950.

GENERAL HEALTH

Medical examination of 466 men, women, and children in 1948 and 1950 showed 37 percent to be undernourished and less than 1 percent to be overweight. Ninety-one percent were recorded as in good, general health. It should be noted, however, that these examinations took place in the summer, when respiratory ailments are least prominent. All fieldworkers over the years have had a strong impression

TABLE 7.—*Age and sex composition of the population of Ramah*¹

Age	Number of males	Number of females	Total
0-5.....	49	47	96
5-10.....	42	54	96
10-15.....	45	47	92
15-20.....	32	30	62
20-25.....	23	28	51
25-30.....	20	31	51
30-35.....	19	17	36
35-40.....	16	19	35
40-45.....	14	11	25
45-50.....	10	11	21
50-60.....	20	16	36
60-70.....	10	7	17
Over 70.....	4	3	7
Total.....	304	321	625

¹ As of September 1, 1950.

that illness was a constant and serious problem in this group. Respiratory disease, skin infections,¹⁶ and eye trouble¹⁷ are recorded most frequently for adults; intestinal afflictions for children. During the course of the past 20 years, more than 100 individuals are known to have had tuberculosis at one time or another. The disease has halved the number of at least two families and come close to exterminating two others. Navahos are also highly susceptible to infectious diseases (influenza, whooping cough, measles, chickenpox, and the like) that reach them from the surrounding populations.

There are also a fair number of deformities and biological abnormalities in this population. Six women and four men walk with a limp. In the case of at least four of the women this is known to be congenital as a consequence of flat acetabula. One of the women and two of the men limp as a result of injuries (fractures which did not unite properly). Six individuals are deaf in both ears; seven in one ear; five others are perceptibly hard of hearing. Of all these persons, only four are past middle age. Of the 466 subjects medically examined, 29 have perforated eardrums. One woman is deaf and mute. There are two hydrocephalic idiots, one low-grade moron, and one stutterer. In 1950, seven persons (two of them old) were blind or nearly blind from trachoma or cataracts or both. Five individuals (all from the same lineage) were afflicted with night blindness. In the 1948-50 period, 9 individuals are known to have had syphilis; 11 men and 9 women had gonorrhea. Mouth disorders are frequent. Only 65 percent of those examined had gums in good condition. Eighty-two individuals had tooth enamel damaged by wear, chipping, or erosion. Dental decay and pyorrhea are frequent. These records correspond to the constant reference in notes of field-

¹⁶ Actually, only 85 percent of those examined medically were free of some form of dermatitis.¹⁷ Less than 80 percent of those examined were free of eye abnormalities of some sort.

workers to toothache, mouth abscesses, teeth pulled, and the like. There are individual cases of minor abnormalities: tumors, bone exostoses, supernumerary nipples, six toes, spinal curvatures, deformed arms, and squint eyes.

Degenerative diseases are not absent here but are relatively infrequent. Of approximately 450 persons examined, about 95 percent revealed no heart abnormality and only 3 individuals showed a condition that could be described as serious or semiserious. There was one known case of cancer in the previous decade. There is one known case of cerebral hemorrhage.

DEATHS

Total Ramah Navaho deaths (including those of immigrants) for the period 1871-1949 are given in table 8. Further information on conditions of life as they may bear upon values can be obtained from a consideration of the available facts upon causes of death. I include only those data that are based either on accidents (e.g., an infant's burning to death) or medical testimony. Of the total 372 known deaths in this population (table 8), there are definitely established causes for 129 as detailed in table 9.

TABLE 8.—*Ramah Navaho deaths, 1871-1949*¹

Period	Sex			Total
	Male	Female	Unknown	
1871-90.....	7	5	1	13
1891-1919.....	46	47	5	98
1926-49.....	137	110	14	261
Total.....	190	162	20	372

¹ Including those of immigrants.

TABLE 9.—*Causes of Ramah deaths*

Cause	Number
Respiratory ailment (tuberculosis, pneumonia, influenza).....	33
Accidents.....	26
Infants and children from dysentery and other intestinal ailments.....	23
Mothers as a consequence of childbirth.....	23
Homicide (all men except one infant).....	6
Infectious diseases (whooping cough, typhoid, diphtheria).....	6
Infants as a consequence of birth injury.....	5
Degenerative diseases (cancer, heart disease) ¹	4
Suicide ²	2
Appendicitis.....	1
Total.....	129

¹ One instance was syphilitic heart disease.

² One of these cases may have been accident rather than suicide.

A few comments will illuminate these figures. One man killed another whom he believed to have caused the death of his wife by witchcraft. A grandfather killed his infant grandchild on the ground that this infant's birth had resulted in his daughter's death. The other four murders all occurred in drunken brawls. Drunkenness was also responsible for two deaths from an automobile accident, one death by pneumonia (a man slept out of doors at freezing temperatures), and four deaths from freezing while drunk. Finally, a mother accidentally killed her infant son by falling upon him while drunk and a drunken man was killed when his horse fell upon him. "Accidents" also include three boys who froze to death while running away from school,¹⁸ eight deaths (all except two of youngsters) caused by a horse, an infant struck by lightning, an infant who died of snake-bite, an infant who died as a consequence of being bitten by red ants, an infant who choked to death, and one case of drowning.

Adair, Deuschle, and McDermott (1957) present the following table (10) for causes of death among the Navaho in general.

TABLE 10.—*Ten leading causes of death among Navahos and comparative United States general population rates, 1954*¹

Cause of death	Rate per 100,000 population		Percentage of total deaths	
	Navahos	U.S. general	Navahos	U.S. general
1. Pneumonia.....	123.5	23.7	16.2	2.6
2. Gastritis, duodenitis, colitis.....	110.2	5.3	14.5	.6
3. Certain diseases of early infancy.....	102.3	39.4	13.4	4.3
4. Accidents—all.....	81.0	56.9	10.6	6.2
5. Tuberculosis—all forms.....	53.0	10.5	7.0	1.1
6. Heart diseases.....	27.9	343.4	3.7	37.4
7. Malignant neoplasms.....	22.6	147.0	3.0	16.0
8. Nephritis and nephrosis.....	17.3	12.6	2.3	1.2
9. Congenital malformations.....	17.3	12.9	2.3	1.4
10. Vascular lesions affecting the central nervous system.....	14.6	103.6	1.9	11.3
Total.....	569.7	755.3	74.9	82.1

¹ Prepared by the Statistics and Analysis Section, U.S. Public Health Service, Albuquerque, N. Mex.

Physiological observations by Gordon Allen, M.D., are summarized by him (MS., 1957, p. 8) as follows:

The Ramah Navaho have significantly lower systolic blood pressures than Puerto Ricans or White industrial workers. Particularly striking is the virtual absence of any blood pressure rise in older women.

Blood pressure, pulse, cold pressor response and Schneider Physical Fitness Score are all significantly related to age, as are weight and somatotype. Cardiovascular efficiency is significantly higher in older individuals, and in the most

¹⁸ Five children died while away at school. These have not been included in the tabulation even where cause of death was known.

acculturated males despite their younger average age. Family analysis suggests that sex-specific genetic factors partly determine blood pressure within the normal range and that this genetic control is more effective or achieves greater vaso-motor stability in the Navaho environment than in modern industrial society.

PHYSIQUE¹⁹

A mean stature of 167 cm. places the Ramah Navaho male in the medium-tall category. Although a few women are obese, the typical Ramah Navaho is not heavy in terms of stature. They are moderately long armed and broad shouldered and their legs are relatively short compared to stature. The head is round with a mean cephalic index of 86 in both sexes. The occiput is usually flattened but rarely deformed. Head height ranges from low to medium. The face is broad with relatively large and projecting malars although the bizygomatic breadth is not great compared to head breadth. Total facial mass is large compared to cephalic mass. Nose form ranges from narrow to medium and a moderate degree of midfacial prognathism is usually present.

Skin color varies from light-yellow brown to dark-yellow brown. Exposed areas of the skin are deeply tanned. Hair color is medium brown to dark brown and is lighter in females and children than in adult males. A minority have some red hair pigment not masked by melanin. The hair is typically straight and coarse. Head hair is abundant; body hair is scarce, although some males have moustaches. Eye color is typically dark brown but light-brown eyes occur in some kindreds.

There is considerable variation in body types both within and between sexes. Females are higher in endomorphy and males are higher in ectomorphy. The range of adult body types in females is 721 to 215 and in males 543 to 135. The two most common body types in females are 413 and 423 and in males 225 and 434.

About 77 percent are blood group O and 23 percent are A₁, the B gene being absent from the population. Only 1 percent are type N and all are Rh positive. Less than 2 percent are nontasters for phenylthiocarbamide and less than 1 percent are nonsecretors for the ABO blood group substances. About 2 percent of males are red-green colorblind.

Table 11 presents 12 measurements of body size and weight in adult Ramah Navaho Indians compared to adult White residents of Ann Arbor, Mich., all measured by the same technique and investigator.²⁰

¹⁹ For motor habits, see Bailey, 1942.

²⁰ The section on "Physique," with table 11, was kindly prepared by Dr. J. N. Spuhler, Department of Medical Genetics, University of Michigan.

TABLE 11.—Comparative measurements of adult Ramah Navaho Indians and adult White residents of Ann Arbor, Mich.

Measurement	Ramah Navaho Indians				Ann Arbor Whites			
	Males (N=101)		Females (N=117)		Males (N=202)		Females (N=228)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Weight (pounds).....	133.1	21.1	122.3	21.0	167.8	25.9	134.0	25.0
Stature (cm.).....	167.3	5.3	156.4	6.0	174.6	6.5	161.4	6.1
Sitting height (cm.).....	88.8	3.1	82.3	3.5	91.6	3.4	86.0	3.2
Head length (mm.).....	182.7	6.7	174.1	6.3	197.0	6.6	185.6	6.5
Head breadth (mm.).....	158.0	5.6	150.6	5.3	154.0	5.1	147.2	5.3
Head height (mm.).....	126.8	5.6	124.3	5.5	133.7	7.3	126.6	7.4
Minimum frontal breadth (mm.).....	110.1	4.3	107.5	3.5	107.7	4.7	102.8	5.0
Bizygomatic breadth (mm.).....	148.0	5.1	140.2	4.2	140.3	5.1	131.3	4.9
Bigonial breadth (mm.).....	109.7	5.1	104.1	4.4	106.2	6.4	98.0	5.4
Total face height (mm.).....	119.3	6.1	111.8	5.0	121.9	7.4	111.5	6.2
Upper face height (mm.).....	68.9	4.0	64.8	3.9	71.4	5.0	66.4	4.3
Nose height (mm.).....	51.7	3.5	47.0	3.1	55.1	4.4	50.9	3.5
Nose breadth (mm.).....	39.0	2.9	35.4	2.8	36.3	3.1	32.5	2.7

SOCIAL ORGANIZATION

The technical details of the Navaho kinship system have been reviewed by Bellah (1952) and others. Here only some salient points will be mentioned. Descent is matrilineal. The brothers of the mother play an important role with her children as disciplinarians, in arranging marriages, and in inheritance. Maternal grandparents also take considerable responsibility, though this may be assumed by paternal grandparents in the case of patrilocal residence. There are separate terms for maternal grandfather and grandmother, only one term for paternal grandparents. The relationships between siblings of the same sex is characterized by closeness and solidarity (especially in the case of sisters); toward siblings of opposite sex, restraint and respect are observed. There are joking relationships of various types and intensities between relatives of various classes, that with both male and female cross-cousins being coarse. Mother-in-law and son-in-law avoid each other.

Each Navaho belongs to the clan of the mother and is "born for" the clan of the father. Members of one's own clan are addressed by the same kinship terms that are used for immediate biological relatives of corresponding sex and generation. There are sentimental linkages and some economic reciprocities between all clansmen. These apply—but in attenuated form—to the group of two to five clans that are "linked" to one's own. In recent generations, however, the prime function of clans and of linked clan groups has been that of regulating marriage. One may not marry:

1. A member of one's own clan
2. A member of one's father's clan
3. A member of a clan "linked" to one's own clan
4. A member of a clan "linked" to one's father's clan

The Ramah genealogies show four violations (out of 399 marriages) of the first prohibition and five violations of the second. Transgressions of the third and fourth regulations have been more frequent but cannot be enumerated exactly because of disagreement among the Navaho themselves as to which of the clans should be considered linked. Indeed many Navahos under 40 years of age in 1950 could not name with confidence the clans linked to their own, let alone to those of their fathers.

The first known violation of clan exogamy occurred in 1932 and was a serious one because a man who was Bitter Water clan (father's clan: Meadow) married a woman of Meadow clan whose father was of Bitter Water clan. There was a great local scandal, and strenuous efforts were made to prevent the marriage and to break it up after it occurred. By 1950, the prohibition against marrying into the clan group of one's father or mother could be considered operative only in the case of a small number of very conservative families.

Of the more than 50 Navaho clans, 25 have been represented in the Ramah genealogies, but a number of these by only one or a very few individuals who married in from other Navaho bands. As of 1948, 19 clans were represented in the Ramah population. Four of these were represented by single in-marrying males, and only six had memberships comprising more than 16 individuals. These six clans included 97 percent of the total population: The four largest clans comprised 77 percent, the two largest about 40 percent. (Kluckhohn and Griffith, 1950; Spuhler, 1953.)

MARRIAGE

In theory—and to a considerable (though decreasing) extent in practice—the first marriage is celebrated with a simple ceremony that has often been described in the literature. Prior to 1940, well over 90 percent of first marriages and approximately 75 percent of later marriages were arranged by the families of the two prospective spouses—or, in the case of males in middle age and beyond, by the man's direct negotiation with the family of his prospective wife. Marriages in the 1940–50 decade were arranged in only 60 percent (roughly) of the cases, though in a good many of the instances where the initiative was taken by the principals, the families eventually became involved in the exchanges of property which normally accompanied arranged (socially sanctioned) marriages. Many of the "affairs" represent only philandering. Others, however, are cases where man and woman were drawn to a stable relationship, but marriage was opposed by their relatives on economic grounds or violation of clan or clan group exogamy. A sizable proportion of the affairs become recognized marriages on the birth of children.

Approximately 12 percent of all marriages involved a mate from outside the Ramah population. These were predominantly arranged marriages. It was 1930 before a Ramah girl went to live on the Navajo Reservation with a boy she had met at school. (This was also the first instance of a Ramah *woman* emigrating on marriage.) Since 1940, four women and two men have made seven nonarranged marriages with Navahos they had met at school or while at work away from Ramah. The Laguna Indian who moved into the Ramah area in 1894 as a shepherd for Spanish-Americans represents the only other case of a nonarranged marriage with "outsiders."

Men ordinarily move away from Ramah on their marriage to a woman elsewhere. Since 1890, 26 Ramah men have married out (12 to the Two Wells area, 8 to the Thoreau area, 3 to Fort Wingate, and 3 to other parts of the Navaho country). Five of these marriages are more correctly described as bilocal because the family spent at least a few months a year in the Ramah area. Fourteen of the men returned to Ramah on the dissolution of their marriages elsewhere. Conversely, only five women moved away from Ramah upon marriage; one to the nearby Zuni farming village (Pescado), two to the Thoreau area, and two to the Navajo Reservation. Of these, three returned to Ramah.

Since 1890, 39 men from outside have married into Ramah (24 from the Two Wells area, 8 from Thoreau, 2 from Fort Wingate, 2 from Zuni, and 3 from other Navaho regions). Of these, 18 returned to their former homes on the dissolution of their Ramah marriages. Eleven women (six from Two Wells, three from Fort Wingate, and two from Thoreau) settled in Ramah on marriage to men there, though one of these marriages could be called bilocal. It is notable that, in contrast to the figures for the men, only one of these women subsequently moved out of Ramah and she left with her husband and family.

The fact that marriages both in and out come overwhelmingly from three areas (Two Wells, Thoreau, and Fort Wingate) reflects three factors; relative proximity, historical association, and the Navaho pattern of exchange of siblings between family groups. Actually, proximity is clear cut only in the Two Wells case, though Thoreau by trail is about as close as any Navaho band except Two Wells. The historical factor arises from the circumstance that a number of the "founders" of the Ramah population were either born in these three areas or had settled in one or more of them for some time before moving to Ramah. Connections with relatives in these regions have been kept up through the years.²¹ This, in turn, facilitated the arrange-

²¹ Ceremonials (e.g., Enemy Way) are an occasion during which relatives from different areas meet and potential spouses can look each other over.

ment of marriages, particularly in the form of repeated exchanges between an extended family at Ramah and an extended family in one of the other areas. For instance, four men and two women (all closely related) from Thoreau over a period of years married individuals from the same family line at Ramah. Reciprocally, the Ramah group sent two men and two women back to the Thoreau group. Fully three-fourths of all emigrating and immigrating marriages since 1890 fall into the category of perpetuation of an exchange (initiated before or after 1890) between very close or slightly less close relatives in the Ramah area and a similar group in the other area.

This same pattern prevails, of course, for marriages within the Ramah population. If a young man from family *A* marries a girl from family *B*, there is a strong likelihood that a younger brother or sister from family *A* will marry a girl or boy from family *B*. If one is not available from the biological family, one will often be provided from the extended family. Failing this, there is an appreciable preference for a biologically related spouse from the same clan as the children of family *B*. This is the probable explanation of the fact that marriages between clans at Ramah (Spuhler, 1953, p. 301) show preferential tendencies for clans to exchange members in ways not determined by the system of linked clan exogamy.

On September 1, 1950, there were 41 women and 19 men of the age of 25²² or over who lacked spouses. Seven men (only one past the age of 40) had never married and were not reported to have had children. Seven women (all still of reproductive age) had neither married nor had children. Four women had never married, but had subadult children. There were six divorced men (three under 40, one of 48, one of 56, and one of 72), nine widows (all past reproductive age), and three widowers (all over 69 years of age). An additional 10 widows, 2 widowers, 11 divorced women, and 2 divorced men were living as "heads of families"—i.e., without spouses but with subadult children in their homes. Of the widows, seven were beyond reproductive age; of the divorced women, three. Two of the men were in their fifties, two in their sixties.

On the same date, there were 97 marriages in force at Ramah (see table 12, p. 364). Of the 11 polygynous ones, 7 involved the marriage of a man to two full or half sisters (daughters of the same mother or of the same father, but by two different wives who were biological sisters); 2 were cases of the marriage of a man to a woman and to her daughter by a previous marriage; and 2 involved the marriage of a man to two unrelated women. Of all the polygynous marriages at Ramah, 29 have been sororal, 10 have involved step-

²² This seems the right age to take as of this date. (See table 4, p. 351, for the age of first marriage, 1940-50.)

daughter marriage, and 12 have involved marriages to unrelated women. Only three of the latter occurred prior to 1930. The data show this form of polygyny to be much less stable than the other two types.

There are seven cases of the simple sororate. If one looks at the matter from the Navaho point of view, including cases of a widower marrying a parallel cousin (or other "clan sister") of his deceased wife, the number mounts to 18. There are only three instances of the simple levirate; seven more as defined by Navaho culture.

One is tempted to say that sororal polygyny, the sororate and all other forms of marriages preferred by this culture are merely special instances of the more general principle; repeated exchanges between two extended families or other groups of close relatives. This generalization will cover the overwhelming majority of all Ramah marriages,²³ embracing such instances as the following which are less sharply patterned than the exchange of marriageable siblings between two biological or extended families. A man married the divorced wife of his sister's son. Another married the widow of his sister's son. Conversely, another Navaho married the widow of his mother's brother. Still another married two daughters born to the wives of his mother's brother by their previous marriages. A young man married the daughter of his father's divorced wife (from Thoreau). Six men have married a sister of a wife from whom they had been divorced. One man married three sisters in succession with one of the two from whom he was divorced marrying his biological brother and the other marrying his parallel cousin. There are numerous cases of men marrying former wives of their brothers and of women marrying brothers or "clan brothers" of their ex-husbands. Two men (brothers) married (in succession) the daughter of their brother-in-law by a former marriage. In this instance, as in others, one has grounds to suspect the factor of sheer propinquity as well as that of the patterned economic and other reciprocities. In fact, one can ordinarily separate these two factors only by somewhat artificial abstraction. Quite frequently, the relationships involved become somewhat intricate. For example, a man married as his first wife the sister of his sister's husband and as his second wife the daughter of his father's sister's son (who was also the man's mother's brother's son).

In most cases, Navaho women are younger than their husbands. Often—and this increasingly in the last 20 years—the difference in

²³ There is, to be sure, always a first time. But one marriage of any duration almost always leads to others. An instance occurring in the 1940-50 decade is entirely representative. In 1942, Jo Miguel married Mary, the daughter of Pete Caballo. Two years later a marriage was arranged between Jo's son, Easy, and a cousin of Mary. In 1946, Jo also married Mary's sister. In 1949, Pete, Mary's father, married the young daughter of Jo.

age is only a few years. However, in the total Ramah records,²⁴ the wife was 5-10 years younger in 49 cases, 10-15 years younger in 27 cases, 15-20 years younger in 18 cases, and more than 20 years younger in 28 cases. The last figure reflects the fact that men past 50 who are widowed or whose wife has passed the reproductive age frequently marry again and prefer a young wife if they can obtain one through economic or other arrangements. The converse of this is that 13 men have married women 5-10 years older than themselves, 7 have married women 10-15 years older, and 5 have taken wives more than 15 years older. In all save four of these cases, the marriage has been the young man's first. In 11 cases, the women had one or more daughters by a previous marriage, and in 3 of these instances the young man eventually also married his wife's daughter. All of these marriages of young men to older women have been arranged in the pattern of continuing exchanges, largely but not exclusively economic. The Navaho also rationalize this type of marriage by saying that it is good for a young man to marry a woman who is experienced in sexual and subsistence activities.

Table 12 provides information on the duration of marriages and incidence of termination by death and divorce. It is evident that the first 2 years (and especially the first months) are crucial. This is notably the case with arranged marriages. The birth of a child who survives is no guarantee that a marriage will endure beyond a year or two, but it does make a difference because then the families of both spouses will usually bring considerable pressure to preserve the marriage. Navaho women who conceive at all, ordinarily conceive quickly. Figures (as of 1946) are: 11 mothers had their first child when they were 15 years of age or under; an additional 61 mothers had a first child when the mother was under 20; 46 more women bore when they were under 25; and only 19 women had their first child after the age of 25.

One cannot, of course, specify the "causes" of divorce with equal precision. One can only list the factors the Navaho talk about most frequently and which seem to obtain from observed behavior. The Navaho often speaks of laziness or irresponsibility or drunkenness or physical aggression. Unwillingness or inability to perform the sex act is also considered a valid ground for divorce. There is much talk of nagging or unreasonable demands from relatives of the spouse. On the basis of inference, there is reason to suspect that many of

²⁴ The population from which this and other statements referring to all marriages recorded in the Ramah census should be taken as "around 400." Actually, some information on about 750 marriages appears on the cards. But data on marriages before 1890, on marriages of emigrants, and on marriages of some individuals who died before 1920 are incomplete. For some purposes where reasonably reliable dates are necessary, the number that can be tabulated falls to around 300. But for most of the tabulations in this section the numbers fluctuate between 360 and 425.

TABLE 12.—*Duration of marriages*^{1 2}

Years	Still in force	Terminated by death	Terminated by divorce	Total
0-1.....	6	5	43	54
1-2.....	5	2	21	28
2-3.....	8	4	13	25
3-4.....	8	4	5	17
4-5.....	7	6	5	18
5-10.....	24	15	22	61
10-15.....	17	16	10	43
15-20.....	9	8	9	26
More than 20.....	13	31	9	53
Total.....	97	91	137	325

¹ As of September 1, 1950.

² Only those marriages are included whose dates are fixed with reasonable accuracy. Marriages broken up temporarily but reunited are treated as a single marriage. Polygynous marriages are treated separately for each woman involved. They often dissolved at different times.

the arranged marriages fail to survive the first year or two because of "incompatibility" whether sexual or temperamental: The spouses do not know each other or hardly know each other, and one or the other has to live in, or in very close contact with, a group that is unfamiliar and has somewhat different patterns of and for behavior.

Inbreeding coefficients have been calculated for 316 matings which produced 1,118 offspring during 7 generations (Spuhler, 1953). Of the 316 sibships, 123 are inbred. The range of inbreeding coefficient for individuals is 0.0010-0.0977, the mean for inbred siblings is 0.0175, and the mean for the later generations 4 through 8 is 0.0080, and the mean for the total population, generations 1 through 8 is 0.0066. These values are minimum estimates for the population.

Coefficients of the order observed for the Ramah Navaho, while about two times those found for Japan and four times those reported for Europe, are small compared to the estimate for the Dunker isolates in the United States and compared to such regular systems of inbreeding as full first cousin mating.

RESIDENCE

Even the most accurate picture of the distribution of a Navaho group by locality on a given date can be misleading unless certain facts are borne constantly in mind. The composition of some families and their places of residence have shown remarkable continuity over the past 20 years. The membership of these family groups has changed, to be sure, with births, deaths, and marriages, but the basic patterns have remained very stable. Residence has shifted at one or more seasons of the year to other hogans, cabins, or camps, but the moves have followed each year at approximately the same times to places that varied only a little in location as dictated by grazing conditions or the building of a new dwelling (after someone had died in

the old one or it had fallen into bad condition). In the case of other family groups, however—and most especially in the case of those of unfavorable economic circumstances—shifts are often sudden, frequent, and major. A biological family will break off from one extended family unit and join another or will establish neolocal residence. The combinations of orphaned children and isolated adults attached to one or more biological families constantly break and re-form in new ways. Moreover, it should be realized that some old widows and widowers (these most of all) can hardly be said to have “a” residence at all. They move, with stays of varying duration, among the homes of their children, primarily their daughters; but there are cases where widowed fathers divide their time exclusively among the homes of their sons. Most of the children of marriages dissolved by death or divorce are likewise constantly shifting residence at intervals of weeks, months, or years. In the case of divorce, children ordinarily stay with the mother, but there are instances where they divide their time between their parents, and a few where some of the children of a broken marriage have resided consistently with the father. In the case of death of the mother, children most often go to the mother’s mother or mother’s sister, but sometimes alternate residence with one of these and the father’s mother, father’s sister, father alone, or father with new wife.

Only one generalization as to residence is without exception in the history of this group. In cases of sororal and stepdaughter polygyny, each wife has her own hogan, but the hogans of the cowives are close together. When men have married unrelated women, the hogans of the wives are at some distance and in several cases have been 15 miles or more apart. So far as other patterns of residence are concerned, one can at best describe relative incidence. Thus one can say that uxorilocal residence has always been the preferred form at Ramah, but that there has always been a not negligible minority of virilocal residences and at least a few bilocal and neolocal residences. The proportion of virilocal and neolocal residences has slowly but steadily mounted over the years.

The only way to get a vivid and concrete picture of the variety of residence and of composition of units is by summarizing the facts as of June 1950.²⁵ Even here cautions must be specified. For example, a family is not classified as bilocal unless approximately half the time for the preceding year in question was spent at each residence. How-

²⁵ In the case of individuals or families away from the Ramah area at this time (but who had not moved away permanently) the facts are detailed as of the most recent residence of these individuals at Ramah. School children are assigned the residences of their parents or the residence where they last stayed while at home on vacations. There are some small discrepancies between the figures in this list and in table 7 because the residence survey was made early in the summer of 1950 and some deaths and other changes occurred before September 1.

ever, in certain instances, families assigned as "virilocal" spent as much as 4 months that year in uxorilocal or neolocal residence. In two cases listed as "virilocal," wives and children (joined by the husbands for portions of these periods) spent 3 months or more "visiting" the mothers' families of orientation in Thoreau and Fort Wingate. A man (with wife and child) who had been working at the Ramah Navaho Day School some time is considered as a case of neolocal residence. This assignment is arbitrary and arguable. From the point of view of interaction and economic reciprocities, this family could properly be grouped with the husband's divorced sister (also working at the Day School) and her two children as constituting an extended family, or—still better—as belonging to the extended family of the parents of the man and his sister, who resided only a few miles away. The above are given merely as examples to warn against an overly literal interpretation of the list about to be presented. The list, should, nevertheless, prevent simple generalizations (other than purely statistical) as to residence patterns and composition of family units.

In 97 cases, residence was uxorilocal in 47,²⁶ virilocal in 33,²⁶ bilocal in 6,²⁷ neolocal in 8, and could be classified only arbitrarily in 3.²⁸

COMPOSITION BY SOCIAL GROUPS

I have made a complete listing of the population for June, 1950 by "units." A "unit" consists of persons (in three instances of only a single person) who ordinarily live together (though not necessarily sleeping in the same dwelling) and who share meals, chores, and—to some extent—possessions. The term "household" would be appropriate except that, on the one hand, it perhaps implies a single "roof" and that, on the other hand, it could properly be applied to at least some of the extended families of the Ramah Navaho. In many cases a unit means an elementary family or a polygynous family. In other cases it consists of a single divorced or widowed parent with subadult children. Often, however, a unit includes additional adults: unmarried or widowed or divorced children or siblings of a spouse or spouses; a widowed or divorced parent of a spouse; collateral relatives and adopted children. When two parents are present (and sometimes in other cases), additional adult relatives ordinarily sleep in a different dwelling, but the unit nevertheless works and eats together. A type of unit that occurs frequently and characteristically

²⁶ This means residence in an area occupied by the family of the wife or husband, respectively. It does not necessarily mean residence within a stone's throw of wife's or husband's parents or parent (if still alive).

²⁷ These figures embrace, of course, only marriages in force at that time; they do not include widowed and divorced persons residing with one or more subadult children.

²⁸ Two of these ambiguous cases could be considered avunculocal as far as instigating circumstances are concerned, but the residence of the maternal uncles in question was virilocal. The other case could perhaps be described as fililocal.

among the Ramah Navaho I call a "relict" unit; one that lacks a single complete biological family but comprises the "remains" of two or more marriages broken by death or divorce or the "relicts" of one such marriage plus an unmarried adult.

An "extended family" comprises two or more units each of which includes one parent with child or children and at least one of which includes both parents. These units must also be linked by at least one lineal ancestor common to all children in the group. The dwellings of an "extended family" are ordinarily within sight of each other; at any rate, they are close enough so that daily meals and work activities rather constantly cut across the lines of the distinct units. The extended family is involved, as well as the biological family, in questions of inheritance, marriage, etc.

To comprehend Navaho social organization, one must introduce two additional categories: "group" and "outfit." The criterion for group is primarily geographical. A group consists of two or more units that live within a radius of a few miles and are in frequent interaction. Each unit has close relatives in at least one other unit in the group, but there is ordinarily no lineal link of all children in the group. In the few instances where this condition does prevail with units I have classified as a group rather than as an extended family, the classification was made on one or more of the following grounds: One or more units in the group resided at such a distance from the others that interaction occurred more nearly at a weekly than at a daily level; there was irregular and relatively infrequent sharing of meals and work activities; the group had more than one "center of gravity" as judged by its affiliations and participations and by the absence or irregularity of joint decisions on matters of inheritance, marriage, and the like.

In other words, a group is a somewhat attenuated, less fully organized or unified extended family.

The criterion for "outfit" is primarily that of fairly infrequent but rather regular pooling of resources among a group of relatives (wider than the extended family) for certain major occasions such as sheep dipping, shearing, and lambing; the giving of long ceremonials; sometimes planting and harvesting. A group is sometimes coterminous with an outfit, and an extended family could be regarded as a more closely knit outfit that performs a greater number of functions. But most outfits embrace either a good many units residing over a sizable space or at least one unit that is at a considerable distance from the geographical center of the outfit. Finally, an outfit always has either an actual leader or a figure (a man in most cases) who has prestige through age, ceremonial knowledge, wealth—or two or more of these factors. Navahos, speaking either in English or in Navaho,

will constantly attach the name of this individual to indicate the aggregation of units they have in mind.

Western speech designates as an outfit a group of persons who habitually cooperate for certain purposes under recognized leadership, either genuine or symbolic. This fits the observed facts in the Ramah Navaho case very well. While the lines defining many of the outfits are somewhat fluid and amorphous, it is nevertheless impossible without attention to this category to understand not only the composition of groups which work together on major occasions but also such phenomena as Ramah Navaho "politics" and certain apparently casual patterns of visiting and small economic reciprocities.

There were (in June 1950) 125 units (135 if one counted the polygynous marriages separately). These units were composed of 39 simple nuclear families; 25 nuclear families where one or more of the children did not belong to both spouses; 5 nuclear families where one or more children did not belong to either spouse²⁹ (including two families where one or more children were grandchildren of the spouses); 6 nuclear families plus one unmarried adult; 11 units of polygynous marriage;³⁰ 17 units where a single parent lives with subadult children; 19 relict units; and 3 isolated individuals.³¹

Of these units 53 are embraced in 18 extended families. If one used somewhat more flexible but still relevant criteria or considered a period a year or two earlier, one could speak of an additional 14 extended families. There are 5 uxorilocal groups, 2 virilocal, 5 mixed, and 2 relict groups. There are seven clearly recognizable outfits, all but one of which are also geographical groups.

In part, both the list and this breakdown merely reflect familiar aspects of Navaho culture such as the frequency of children being separated from one or both parents by death and divorce and the propensity for repeated exchanges of marriage partners between two families or extended families. But some less familiar trends with hints as to the values underlying them also emerge. Both the list and the breakdown show that Navaho social organization is based upon the association of relatives, but it is equally clear that actual patterns take many forms; matrilineal, patrilineal, and bilateral. Just from the distribution one could guess (and this is confirmed by field notes) that some groupings arise not from standard factors of Navaho culture but individual likes and dislikes and from economic convenience. Some groups contain particularly large aggregations of regrouped couples or of single spouses with their children or of women with

²⁹ All save one are cases of adoption of relatives. The other instance is that of orphaned sibiings of the husband.

³⁰ Only 3 husbands out of 11 have children by both wives.

³¹ Only two of these actually live mainly in complete isolation. The third individual lives alone but in a hogan next to hogans occupied by two other units.

unmarried children. Finally, the evidence of acculturation upon residence and other aspects is obvious. In general, the greater the influence of European culture the greater the probability that residence will be virilocal or neolocal and the greater the tendency toward "weak" social organization. It is almost impossible today to make valid generalizations about "ideal patterns" of residence as opposed to the behavioral facts. The best one can say is that there is still—even among younger people—a feeling that uxori-local residence "ought" to be preferred but a growing conviction that the newly married couple can properly choose their place of residence in accord with all the circumstances bearing upon their particular case.

POLITICAL ORGANIZATION

Power has tended to be in the hands of older people³² who are still in full possession of their faculties, of the more wealthy, of singers. More often than not at least two of these qualities are combined in the person of a leader. The degree of power of, say, an elderly, well-off singer depends upon his individual personality and upon the number of energetic and respected relatives he has in his extended family or outfit. The exercise of power is seldom overt and direct but rather masked, oblique, and diffuse. Evident power, like evident wealth, is a cause of jealousy and an invitation either to attack by witches or to gossip that the holder is a witch.

Most decisions, from the level of the nuclear family to that of the total Ramah group, are in fact arrived at by informal and often long protracted discussions. In the old days—and to some extent as late as 1950—matters of dispute or decisions that went beyond the extended family were threshed out in a meeting in the presence of the recognized leader of the outfit or the headman of the Ramah band. Anyone present (including women) might speak. The leader or leaders would ordinarily say little (beyond asking questions) until toward the conclusion of the discussion when advice or a decision would be rendered.

From about 1880 until 1942, the leaders of the Ramah community were from a single family line: Many Beads; his son, Bidaga; the brother-in-law of Bidaga; and the son of the daughter of Many Beads. These individuals were recognized as headmen by the United States Government, though in 1924 the Government introduced a "chapter" organization. According to this system an annual meeting of adult men and women elected a president, vice president, and secretary. But annual meetings were not always held, and the authority of

³² In the postwar years several younger men have emerged to positions of distinct leadership. The most recent "headman" has been in his middle to late thirties, wealthy, and married polygynously.

the headman continued to be recognized until 1942 whether or not he happened to be president of the chapter at the time. Indeed, Bidaga exercised great influence and was consulted more or less formally by individuals and groups after he had (in 1935) turned over his post as headman to his brother-in-law. In fact, his role as elder statesman of the community prevailed until his death in 1954.

After 1939 the Ramah band elected not only chapter officers but also a delegate to the Navaho Tribal Council. This position came within a few years to be regarded as equivalent to the old headmanship, and from 1942 onward many elections were hotly contested along factional lines which in considerable part were those of "progressive" and "conservative" and, on some occasions, Christian versus the ancient religion. There have usually been two main factions, though their membership has fluctuated and some families have never consistently alined themselves with either faction. From time to time another issue between the factions has been whether the Ramah band should be under the jurisdiction of the Navajo Agency at Window Rock or the United Pueblos Agency at Albuquerque (with subagency at Black Rock).

Frequency of community meetings has varied greatly with the character and personality of local leaders and representatives of the Bureau of Indian Affairs. In some years during the 1940-50 period there were only 2 or 3 meetings a year, in others as many as 20. Meetings are held at the chapter house³³ near the school which was built in 1943. Adult attendance has been as low as 15 and as high as 98. Matters considered range from complaints of improper conduct on the part of members of the group to consideration of the activities of missionaries, sending the Navaho children to school, elections, and requests to the Bureau of Indian Affairs for services or action of some kind. Discussion often lasts 5 or 6 hours or longer, for the goal is still that of reaching a unanimous consensus of opinion. Moreover, presentations are stylized, deliberate, and repetitious. Most of the speeches are by men and by individuals of at least middle age, though a few of the veterans of World War II have spoken often and at length.

During most of the period since 1943, there has also been a local, elected Navaho judge who hears cases that are not serious enough for the Federal courts. Analysis of the records shows that charges are most frequently brought for the following (in order of frequency): drunkenness with attendant bodily or sexual assault or property damage; theft; and trouble between a married couple or illicit sexual acts. An attempt is usually made to arrange restitution or otherwise work out an amicable settlement between the parties. Where this

³³ Built by cooperative Navaho effort under stimulation from the then agent at Black Rock

fails, fines or jail sentences are imposed. Intermittently since 1939 there has been a local Navaho policeman.

The main mechanisms of social control in daily life remain the informal and customary ones. The Ramah Navaho have never constituted a unified and tightly knit community. Trends in this direction have been sporadic, short lived, and artificial because instigated from the outside. During an interval in the forties when the agent at Black Rock was exceptionally interested in the Ramah Navaho and was liked and trusted by them, the chapter house was built by voluntary effort and there was an attempt to run a cooperative trading store with two veterans as managers. But this latter venture collapsed after a few years, and the store was sold to one of the Mormon traders from Ramah. Probably one of the principal reasons that the Navaho have been much less resistant to cultural change than the Zuni is the lack of a strong central social and political organization to oppose change.

RELIGION

Navaho religion in general, and that of the Ramah Navaho in particular, has been presented at great length in numerous publications (see Rapoport, 1954). Here, therefore, I shall only add a little new material.

The 1940-50 period was one during which a fair number of Ramah Navahos for longer or shorter periods completely rejected their native religion. However, Vogt's (1951, p. 107) figures on ceremonial participation of 15 young men during 1947 demonstrate that only 1 failed to attend a single ceremonial during that year and the mean number of ceremonials attended was 10.6. Indeed there are other hints (such as increased taking of sweat baths during at least 1947 and 1948) of a response of antagonistic acculturation to missionary activity, the Ramah Navaho Day School, and other new pressures. The number of witchcraft stories (gossip and actual accusations) also hit a new peak during the 1945-50 epoch. This latter probably reflects the heightened economic anxieties and increased interpersonal tension consequent upon economic threat, erosion of the traditional culture and the reforming of the community after the dislocations of World War II (soldiers leaving and returning, men and whole families leaving the area to work in ammunition depots, etc.). The peyote religion has gained no adherents at Ramah.

A vivid and detailed account of Navaho religion in the life of one person (himself a diviner) will be found in Leighton and Leighton (1948). Spencer (1957) has analyzed intensively a portion of Navaho mythology to throw light on Navaho life view.

The value themes identified in plot construction center in four areas: the maintenance of health; the acquisition of supernatural power; the maintenance of harmony in family relationships; and the process of the young man's attainment of adult status. [Ibid., p. 86.]

Responsibility and self-reliance are valued character traits, but self-assertion contains both beneficent and aggressive-destructive components. The problem of aggression tends to be treated on the basis of a "practical" morality. (Ibid., pp. 92-94.)

PSYCHOLOGY

Leighton and Kluckhohn (1947, especially chs. 4 and 8) have presented a more extended treatment of Navaho "psychology" than will be possible here. The purpose of this section is to summarize some of the material obtained in the past decade insofar as it appears to constitute background relevant to an understanding of Ramah Navaho values. The Navaho are not a very "open" people in dealing with outsiders (cf. McAllester, 1954, pp. 76-77, 80-81). Even compared with, say, the Western Apache, they are reticent and suspicious and take a good deal of knowing. This is due, I believe, at least in part, to their having been so badly "seared" by their contacts with Whites. This reaction and the accompanying withdrawal and defensiveness appear more prominently at Ramah than in some other Navaho areas.

Bruner (1953) administered the dart test to 152 Ramah Navahos over 12 years of age. This experiment indicated that the Navaho individual changes his own aspirations in the direction of the aspirations of the Navaho group once the group's norms are made known to him. The Navaho also tend to sit tight and do nothing in an unfamiliar situation. Women were found to be less conforming than men on the dart test.

This last finding fits with the demonstration by Hughes (MS., 1951) and Rapoport (1954) that women have joined the Nazarene church in greater numbers than men and play a more active role in singing and other aspects of the services. It may also link with Strodbeck's (1951) discovery that when Navaho couples engage in a discussion the wives win more decisions than the husbands, although the number of their acts of participation in these small group situations is lower than that of their husbands. The special psychology of Navaho women may also be reflected in Edmonson's (MS.) finding that, in contrast to both Hispano and Anglo culture, Navaho culture has a type of "dirty joke" appropriate to each sex.

Heath's (MS., 1952) study of drinking among the Ramah Navaho highlights many features both of psychology and of social structure. Drinking parties are an occasion for sociability but also for sexual

release and much expression of aggression. Drinking tends to take place in small groups. Heath's sample shows 39 pairs, 22 trios, and only 12 groups of four or more persons. The most frequent combinations of kin are maternal uncle with maternal nephew and brothers-in-law. Biological brothers and clan brothers drink together with only slightly less frequency. Husbands and wives drink together about half as often. Drinking by women is condemned by the more conservative Navahos, and far the greatest part of female drinking at Ramah is by women under 35. With the partial exception of married couples, drinking in mixed groups is generally disapproved, and out of 405 drinking episodes Heath found only 46 in which both sexes participated.³⁴ The hostility which comes out is not random but bears a relation to some of the main tensions in Navaho social structure as well as to geographical propinquity. Drunken assaults occur in the following order of frequency: husband and wife; maternal uncle and nephew; father-in-law and son-in-law; and clan brothers.³⁵ It is noteworthy that although cross-cousins often drink together, there is not a single instance in the field notes of drunken quarrels between them.

Kaplan's (1954) work with projective tests indicates that only on a few points can one make sound generalizations (other than gross and somewhat conflicting statistical trends) about the psychology of the Ramah Navaho. They do (*ibid.*, p. 24) manifest an oral dependency syndrome which is completely absent in the Mormon group.

A monograph by Bailey (1950) and a chapter by Kluckhohn (1955) contribute to an understanding of the sexual psychology of the Ramah Navaho. Briefly, sex and the reproductive cycle of women are heavily tinged with supernatural beliefs and practices. On the other hand, sex at the suitable time and place and with a proper person is not "nasty" but rather one of the good things of life. In Freudian language, the Navaho have object taboos but not aim taboos. While—by the standards of Christian culture—the Navaho are far from puritanical as far as sexual behavior is concerned, and they make many ribald jokes (though between certain relatives reticences must be scrupulously observed), they are nevertheless modest about exposure of the genital areas.

As for the more cognitive aspects of psychology, the Navaho operate with a more limited variety of hypotheses than do Anglos; but within those limits the best Navaho minds think as rigorously as any others (*cf.* Ladd, 1956). Navahos tend to be systematists and classifiers, and they are often quite precise about their categories. There is a

³⁴ In only 15 of these incidents did sexual promiscuity fall to occur.

³⁵ Includes only pairs reported on four or more occasions.

marked tendency for all systems to be anchored at one or more points to Navaho theology and its terminology.

FINAL REMARKS

In reflecting on the values of the Ramah Navaho one must always bear in mind the variations as well as the similarities in the situation and culture of this group. Situation varies with age groups; degree of acculturation of one or more members of the family; sheer location (distance from Ramah, Zuni, Atarque); and quality of the land held. The effective culture varies along the lines of sex, generation, and acculturation as dependent upon personal experience regardless of age, location, and other factors. Even among closely related families of not dissimilar age composition, living contiguously, Roberts' (1954) microscopic investigation has indicated how many positive and negative differences may exist.

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