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PRELIMINARY REPORT

on the

Ethnography of the Southwest

By Dr. Ralph L. Beals

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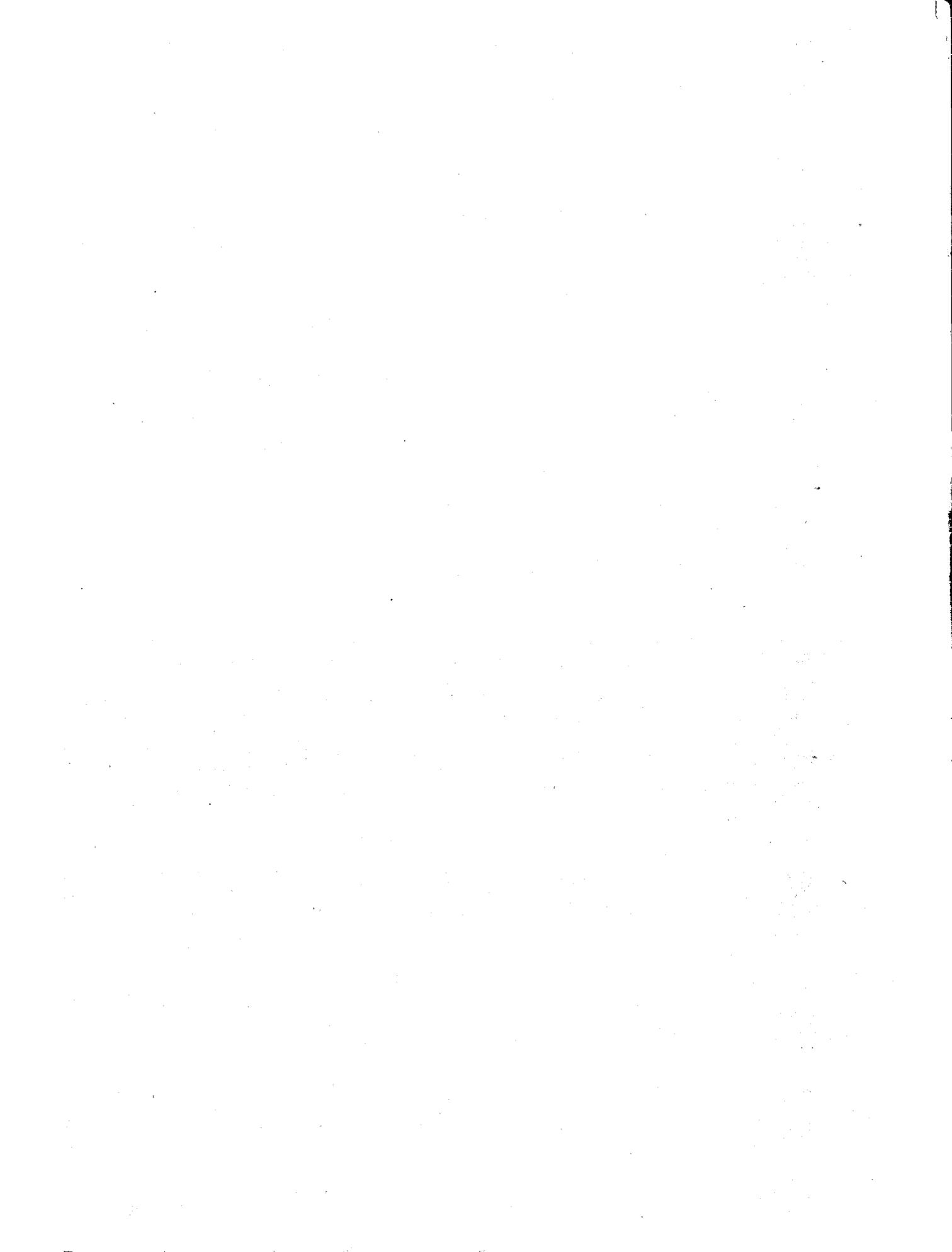
U. S. Department of the Interior
NATIONAL PARK SERVICE
FIELD DIVISION OF EDUCATION

Berkeley, California
1935

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PRELIMINARY REPORT
ON THE
ETHNOGRAPHY OF THE SOUTHWEST
BY
RALPH L. BEALS

U. S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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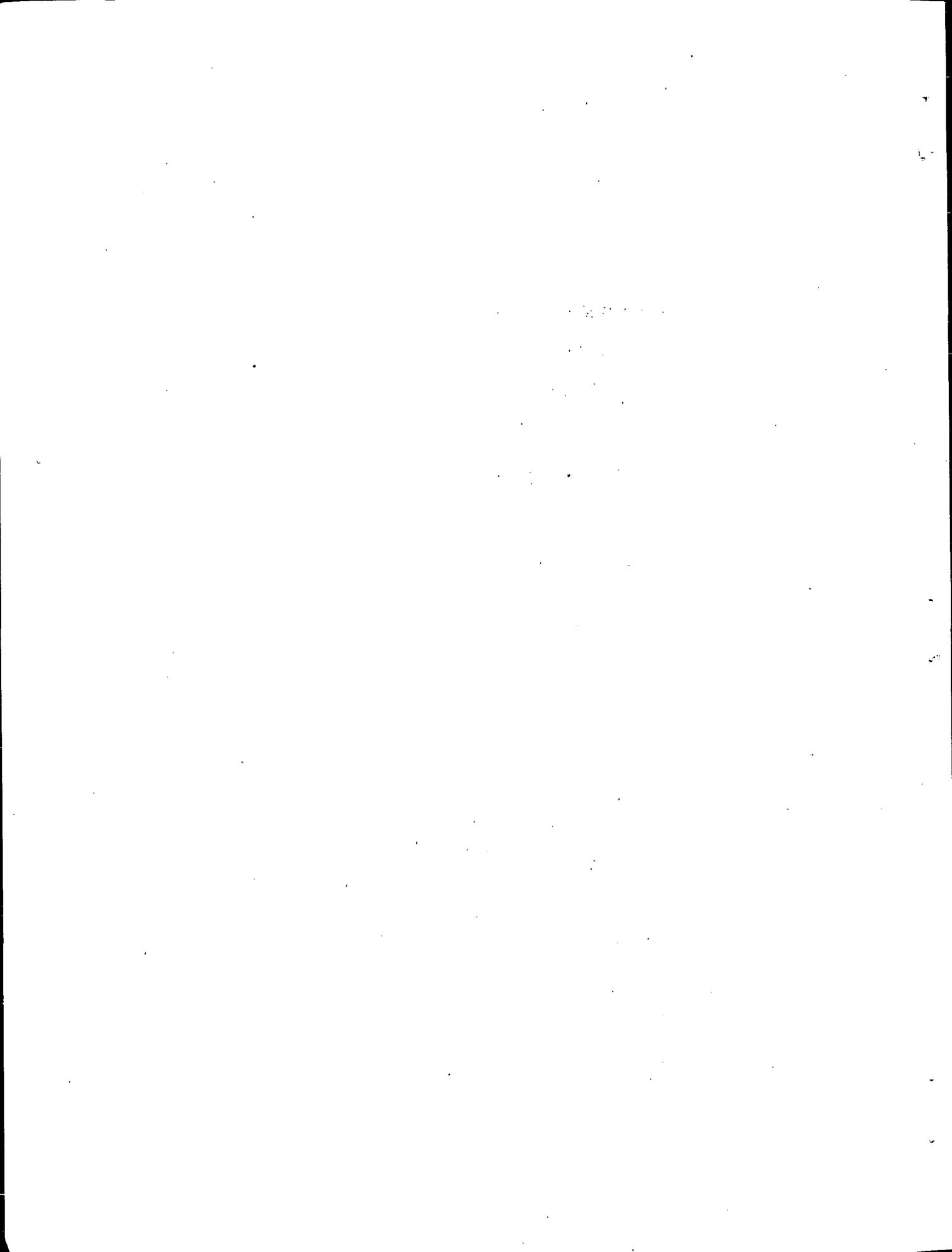
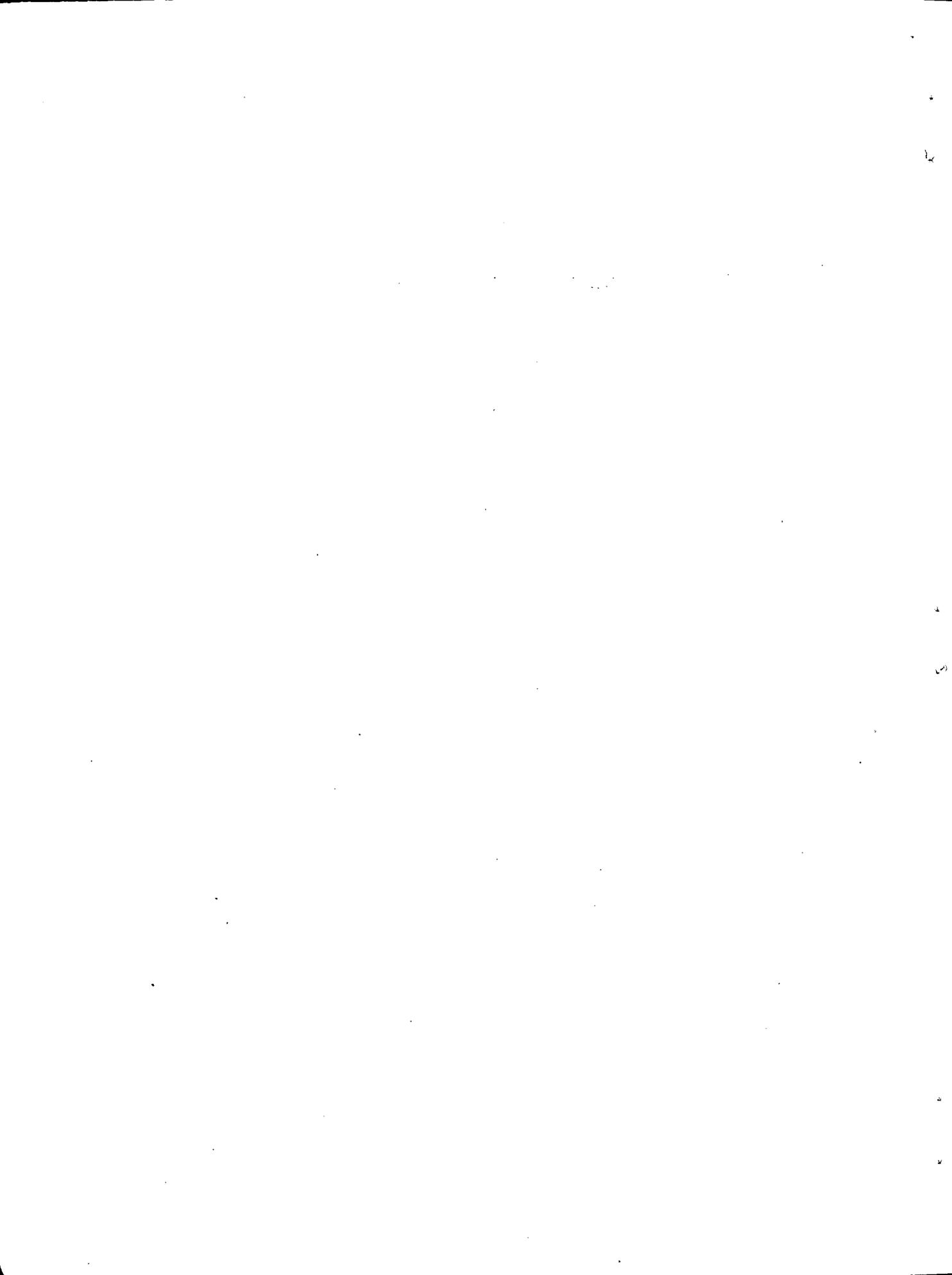


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FOREWORD

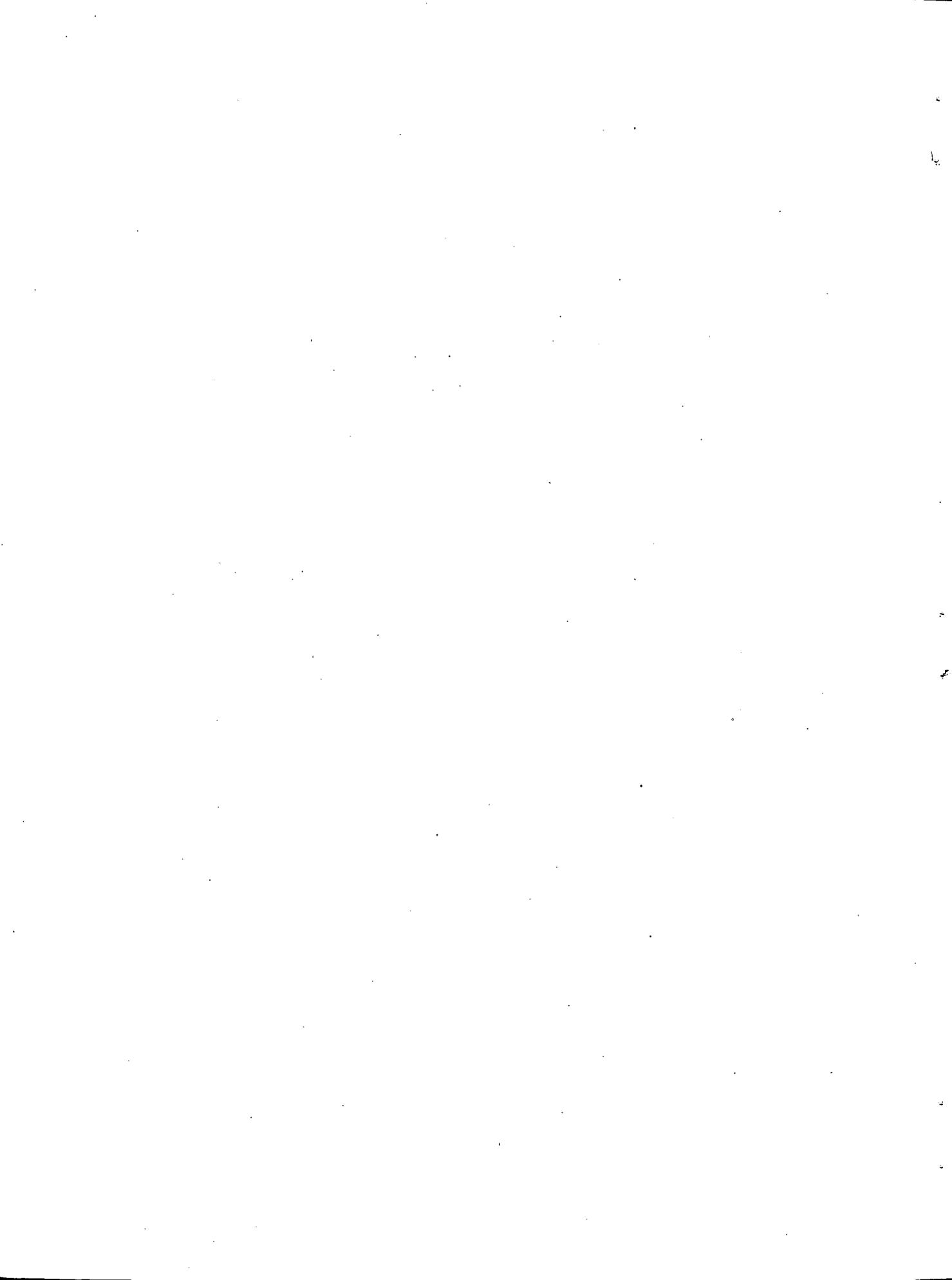
This paper is one of several prepared for the Field Division of Education of the National Park Service by a group of research workers employed during the CWA period of 1933-34. Its purpose was to provide an outline of the ethnology of the Southwest which would serve as a background study for use in the planning of museum exhibits in the National Parks and Monuments of the Southwest, and also to act as a preliminary paper for the preparation of a general guide to the region.

The form and content of the paper naturally reflect the purpose for which it was intended. It makes no pretence of being an important piece of original research nor a complete statement of the ethnology of the region, being primarily a compilation made from the published materials. An important part of the paper is the lengthy bibliography on the subject which is appended to the paper.

Owing to the short length of time available for this outline, which was undertaken toward the close of the CWA period, certain portions are incomplete. In these sections the author has simply listed the more pertinent references to the subject treated. Despite this, the demand for copies of the paper has been sufficient that it is believed that a real purpose will be served by making it available to libraries and serious students of the subject in this mimeographed form.

The paper departs from the usual standards of scholarly form in order to save time and expense in mimeographing. References have been included in the text in parentheses. Owing to the large amount of analysis and synthesis of material, authorities are cited only for each section of the paper and every statement is not definitely cross-referenced. No statement is made, however, which is not based on study and analysis of well-recognized sources.

Credit is due the State Emergency Relief Administration for supplying the workers who have made the mimeographing of this paper possible.



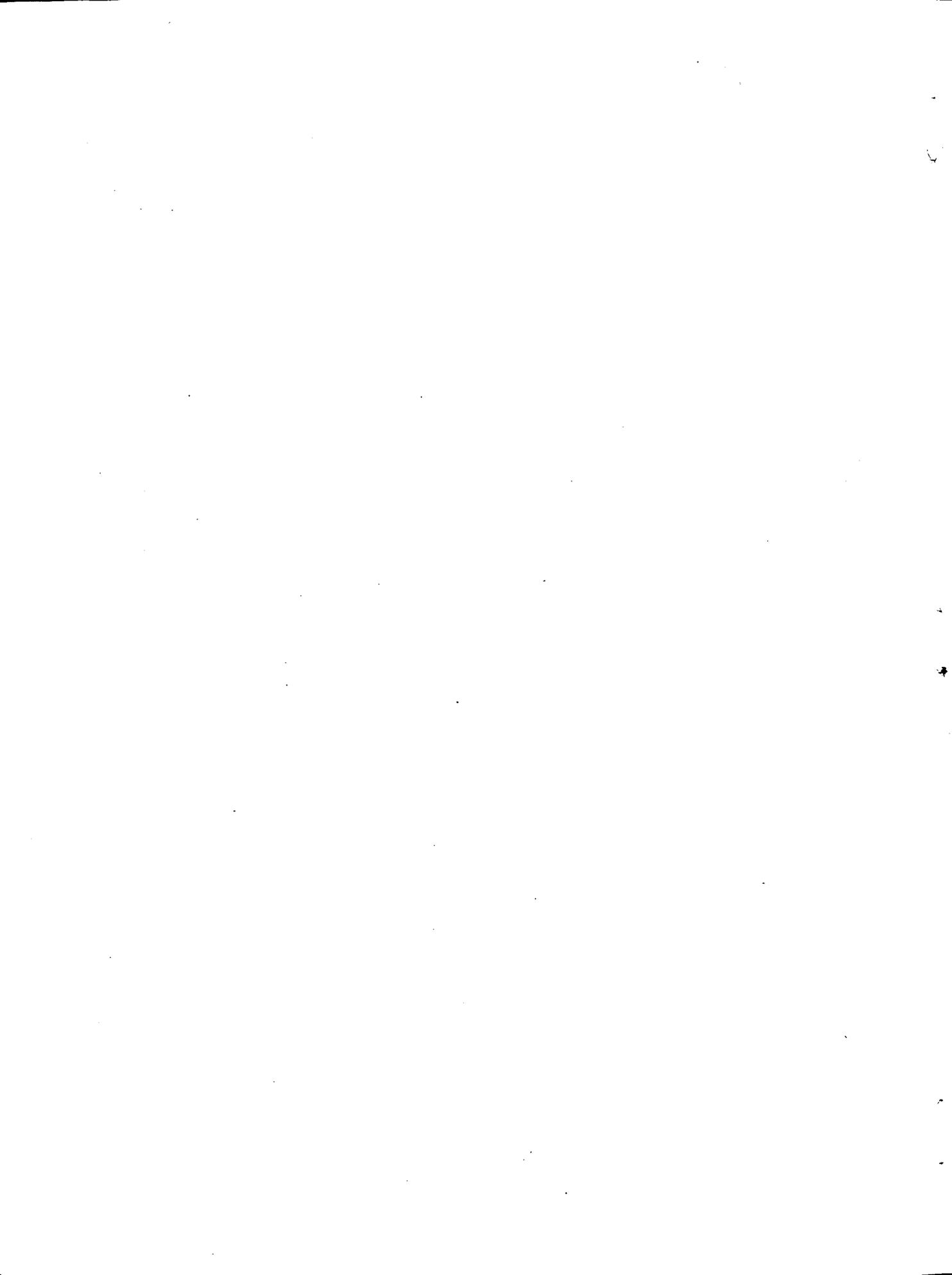
INTRODUCTION

The following paper is a partial and incomplete report on the modern tribes of the Southwest. More properly speaking, it perhaps should be called a report on the Pueblo Indians of the Southwest, as time has not permitted any investigation of the non-Pueblo tribes. I have, however, indicated the principal sources for each group so that anyone carrying on this study will be able to outline the salient points without any lost motion.

With regard to the Pueblos, the material on the Eastern or Rio Grande Pueblos is far more complete than that on the Western Pueblos, time again having been the limiting factor. I have presented this material in a running account, generalizing for the two major divisions of the Pueblos without much specific data being given for the individual Pueblos. In the main I have attempted not only an assemblage but an interpretation of the facts. I should like to point out, moreover, that these generalizations and interpretations are based on hundreds of pages of notes specifically referring to the individual Pueblos and developed by constant checking and cross-checking against not only my notes but the original sources. Where it has been possible to have the sources at hand continuously, I did not develop any elaborate series of notes beyond an index.

The Pueblo material is referenced to the authors and works most used and containing the bulk of the most reliable material. Page references have not been particularly practical in this running account for the reason that the organization here presented has involved the complete reclassification of the original data, in many instances. I have in almost no instance attempted to give any descriptions of ceremonies, as these are extremely complex; and to describe the public dances in particular would involve hundreds of pages of descriptive material. Such descriptions may be found in the references.

In the time allotted for the study, detailed reference to each Pueblo would, of course, have been out of the question. It may be felt that the specifically localized or geographic feature has been unduly slighted but with the bulk of the ethnographic material I do not see how it is possible to do more than locate each Pueblo and outline a few of its main features. Someone working up road guides on the ground with the detailed sources at hand might be able to locate various shrines, clay pits, fields, etc., but when working at a distance, this could not possibly be done,



EARLY HISTORY OF THE SOUTHWEST

It is unnecessary to enter into the history of the Southwest further than wherein it may have bearing upon the ethnology of the region. For this purpose it is sufficient to sketch the early contacts of whites with the Indian tribes in the Southwest. This is essential in order that we may bear in mind the degree to which the native cultures may have been modified by European contacts.

Cabeza de Vaca was probably the first white man to hear of the tribes of the Southwest. Wrecked on the Gulf Coast, together with three other survivors of the expedition to Florida under Panfilo de Narvaez, Cabeza de Vaca and his companions traversed southern Texas and part of the Southwest. His route is now fairly well established, and, while he may have crossed southern New Mexico and southeastern Arizona, probably his path lay a trifle to the south. Eventually he reached Spanish settlements in Sinaloa on the Pacific Coast in 1536.

Cabeza de Vaca's stories fell upon willing ears in Mexico, and in 1539, Mendoza, then Viceroy of New Spain, sent Fray Marcos de Nizza to investigate the cities of Cibola of which Cabeza de Vaca had heard. Nizza was accompanied by one of Cabeza de Vaca's companions, Esteban, a negro, who was to act as guide and interpreter. Esteban pushed on ahead, reaching one of the Zuni towns with an Indian escort. Following a few days behind, Nizza met members of the escort who reported Esteban had been killed. The intrepid friar pushed on far enough to get a distant view of one of the towns, then returned, not daring to approach closer. From this distant view and from the stories of the Indians, Fray Marcos pieced together a glowing account of the cities of Cibola which set New Spain aflame with excitement.

With the memory of the conquest of Mexico and Peru only too fresh in their minds, the Spanish sent off an expedition immediately under that great gentleman, Francisco Vasquez de Coronado. Departing from Mexico in 1540, the Coronado expedition reached first the Zuni villages, moving later to the valley of the Rio Grande, where it wintered. Various members of the expedition probably visited or saw practically all the inhabited pueblos of the Southwest, but they seem to have had little or no contact with less civilized tribes. In 1542 the expedition withdrew, leaving two missionaries, one in the Plains region and the other at Pecos.

Three Mexican Indians were left at Zuni where they were found some years later by another expedition; but the missionaries were soon killed.

Nearly forty years later, in 1581, Fray Roderiguez with two other priests, escorted by a small party of soldiers under Francisco Sanchez Chamuscado, settled themselves on the Rio Grande, probably near Bernalillo, New Mexico. Near the end of the year the soldiers withdrew.

Late the following year Antonio de Espejo and Friar Bernardino Beltran started north to learn the fate of the three missionaries. Although soon learning the three had been killed, Espejo and his handful of companions persevered in what, under the circumstances, was one of the most remarkable exploration trips in Southwestern history. Although the country was seething with hostility, he visited Acoma, Zuni, Hopi, and the pueblos north of Santa Fe, returning down the Pecos River.

In 1590 Castano de Sosa brought a party with the intention of founding a colony. He explored the Rio Grande and Pecos country as far north as Taos but he was forced to return because he had not secured the necessary permit for his explorations.

The real settlement of New Mexico began in 1598 under Onate. Settlements were begun and the missionization of the eastern Pueblos undertaken in vigorous fashion by a group of Franciscan missionaries. For the next 80 years little is known about the history of the region, owing to the destruction of records in the revolt of 1680. That year a concerted revolt by the Pueblos resulted in the expulsion of all the Spanish as far as El Paso. For ten years the governor, Otermin, and his successor, Cruzate, made futile attempts to reconquer the country. In 1692 Diego de Vargas undertook the task and was finally successful in bringing peace after eight years of intermittent warfare.

From this time on, all the Pueblos, except the Hopi towns, seem to have been continuously under the domination of the Spanish. Peace did not last, however; for the Comache arrived in the Southern Plains about 1700, and immediately became dangerous enemies of Pueblos and Spanish alike. Other nomadic tribes, Apache, Navaho, and Ute, became increasingly annoying.

In the meantime various tribes of the rancheria groups to the southwest of the Pueblos were missionized with more or less success, particularly the Opata and Pima-Papago groups. With the other tribes the Spanish had few contacts other than hostile encounters. Brief efforts to missionize the Apache and Navaho were unsuccessful.

In the 19th century American traders became frequent at Santa Fe and some fur trappers penetrated south and west of Santa Fe as well as the northern fringe of the Southwest. In 1848 most of the Southwest became part of the United States with, however, little alteration in the relations between Indians and whites for many years. In general the Pueblo Indians seem to have been better disposed toward the Americans than toward the Mexicans. The Navajo and Ute were early brought to see the advantages of peace, but struggles with the Apache continued under American occupation almost to the end of the century.

The significance of this brief synopsis lies in the extent and nature of the contacts with whites. The Pueblos, with the exception of the Hopi towns, were in intimate contact with the Spanish and Mexicans from 1598 on. The Gila River peoples were in equally close contact with whites from about 1700 on. The other Indian tribes of the area were in varying relations with the Spanish; at times at war, at times at peace, and visiting Spanish settlements for trading purposes. Yet despite this long period of contact, Indian life continued essentially in an aboriginal condition for a very long time; and in the case of the Pueblos, life may still be said to be primarily aboriginal in character despite the undoubted and important modifications which have occurred.

(A good summary from the ethnological point of view occurs in Kidder, 1924. See also other historical sources: Winship; Luxan; Espejo; Rodriguez; Benevides; Cabeza de Vaca; Carrasco; Chamuscado; Coues; Hackett, 1911, 1916; Bolton, 1919, 1930; Bandelier, 1910, 1890a, 1884, 1890b, 1881, 1892, 1893; Hammond, 1927, 1927a; Hodge, 1907; Hull, 1916; Kino; Mange; Oate; Pen- alosa; Siguenza y Gongora; Twitchell, 1911, 1914.)

CULTURAL GROUPINGS

The modern tribes of the Southwest present striking differences in culture. It is, in fact, almost impossible to speak longer of a Southwestern culture area. In the present state of our knowledge it is apparent that a great cultural gap separates the Pueblos from many of the people about them. Consequently it will be necessary to consider the various groups more or less independently.

The geographic area which is to be considered is slightly more limited than that of the archaeological or prehistoric Southwest. It consists roughly of Arizona, New Mexico, a portion of northern Sonora, southern Utah, southwestern Colorado, and the southeastern fringe of California. Within these limits live a large number of tribes of very diverse culture and speaking various languages, often of very different linguistic stocks (see maps 1 and 2).

The first and most obvious group is the Pueblos, those Indians who live in large communities of massive and permanent architecture and who subsist almost entirely from agriculture. This group, although homogenous in culture in contrast to the other Southwestern tribes, displays certain internal differences and speaks a diversity of languages.

Next in the cultural scale are the rancheria tribes, characterized by more or less scattered villages of unpretentious architecture, lacking stone or adobe constructions, and with less dependence upon agriculture than is the case with the Pueblos. This group probably includes the Opata of northeastern Sonora (about whom little is known; they may possibly belong with the Pueblo group), the Pima and Maricopa on the Gila River in south central Arizona, the Papago extending south of the Gila River into Sonora, and the Cocopa, Yuma, Mohave, Walapai, and Havasupai in ascending order from the mouth of the Colorado River to Cataract Canyon. The last two rather shade into the next cultural group.

The third group may be termed marginal agriculturists, from the fact they had no fixed habitations and practised agriculture in only the most sporadic and desultory fashion. They include the western Apache of Arizona and southeastern New Mexico, the Yavapai of western Arizona, the Navaho, and the Paiute groups of southern Utah.

The final group is the least clearly defined. For convenience the tribes of this group may be called nomads. The really coherent feature of this grouping is the close Plains affiliations of the members. All are predominantly hunting peoples without fixed habitations and depending originally to some extent upon the buffalo for subsistence. Probably some of them also practised agriculture in a rudimentary fashion but in the main they more resemble typical Plains Indians than they do any of the Southwestern groups. They include Kiowa, Kiowa-Apache, Comanche, southern Ute, and eastern Apache (Table I).

LINGUISTIC GROUPINGS

The grouping of tribes by languages reveals an entirely different alignment of peoples from that presented by cultural similarities. It has long been recognized that no necessary correlation exists between language and culture, and the Southwest is no exception to this rule. It is customary to group languages according to their degree of relationship with one another into stocks of more or less related languages and these in turn into families of more or less related stocks. Languages and stocks between which no relationship may be detected belong to different families. Unfortunately, few of the languages of the Southwest have been intensively studied and the linguistic affiliations are not entirely certain. The latest groupings, however, make all the languages of the Southwest probably members of one or another of three great stocks of widespread distribution in North America. Table II indicates these groups. The parentheses show the cultural affiliations of each people or group of people (see Edward Sapir, *Encyclopedia Britannica*; Harrington, 1910, 1910b, 1910c).

TABLE I

CULTURAL GROUPINGS OF SOUTHWESTERN TRIBES

I. Pueblos

A. Rio Grande Drainage

Taos
Picuris
Nambe
Tesuque
San Ildefonso
San Juan
Santa Clara
Jemez
Cochiti
Santo Domingo
San Felipe
Sia
Santa Ana
Isleta
Sandia
Laguna
Acoma

B. Western New Mexico

Zuni

C. Northern Arizona

Hopi (seven villages)

II. Rancheria

A. Gila Valley

Opata
Pima
Papago
Maricopa

B. Colorado River

Cocopa
Yuma
Mohave
Walapai
Havasupai

III. Marginal Agriculturists

Western Apache

Yavapai

Navaho

Paiute

IV. Nomads

Eastern Apache

Southern Ute

Kiowa

Kiowa-Apache

Comanche

TABLE II

LINGUISTIC AFFILIATIONS IN THE SOUTHWEST

I. Uto-Aztecan Family

A. Shoshonean Stock

1. Paiute (marginal agriculturists)
2. Hopi (Pueblo)
 - a. Sichimovi
 - b. Walpi
 - c. Mishongnovi
 - d. Shumopovi
 - e. Shipaulovi
 - f. Oraibi
 - g. Hotavilla
3. Ute (nomads)
4. Comanche (nomads)

B. Sonoran Stock

1. Opata (rancheria)
2. Pima (rancheria)
3. Papago (rancheria)

C. Kiowa-Tanoan Stock

1. Tewa (Pueblo)
 - a. Nambe
 - b. Tesuque
 - c. San Ildefonso
 - d. San Juan
 - e. Santa Clara
 - f. Hano
2. Tigua (Pueblo)
 - a. Isleta
 - b. Sandia
 - c. Taos
 - d. Picuris
3. Jemez (Pueblo)
 - a. Jemez
 - b. Pecos (extinct)
4. Piro (Pueblo--extinct)
5. Tano (Pueblo--extinct)
6. Kiowa (nomad)

D. Zunian Stock (?)

1. Zuni (Pueblo)

II. Athabaskan Family

A. Apache-Navaho

1. Apache (nomads--marginal agriculturists)
2. Navaho (marginal agriculturists)

B. Kiowa-Apache (nomads)

TABLE II
(continued)

III. Hokan-Souian Family

A. Yuman Stock

1. Maricopa (rancheria)
2. Cocopa (rancheria)
3. Yuma (rancheria)
4. Mohave (rancheria)
5. Walapai (rancheria)
6. Havasupai (rancheria)
7. Yavapai (marginal agriculturists)

B. Keresan Stock

1. Cochiti (Pueblo)
2. Santo Domingo (Pueblo)
3. San Felipe (Pueblo)
4. Sia (Pueblo)
5. Santa Ana (Pueblo)
6. Laguna (Pueblo)
7. Acoma (Pueblo)

THE PUEBLO INDIANS

The Pueblo Indians are broadly characterized by sedentary habits of life, an almost complete dependence upon agriculture for their food supply, and the building of compact village structures of substantial architecture. As a group they are set off sharply from the other Indian peoples of the Southwest. They are peaceable in habits but are strongly attached to their own ways of life. Despite centuries of white contacts, they preserve their native culture perhaps more completely than any other Indian group in North America. Particularly is this true of their religious life about which the eastern Pueblos in particular have built up an almost impenetrable wall of secrecy. The degree of secretiveness in each Pueblo is in almost direct proportion to the extent of white contacts. It is based not only upon the desire to avoid interference and unsympathetic misunderstandings, but in many cases upon a real feeling that something of the efficacy of certain ceremonies will be lost through even passive participation of the uninitiated.

Although there are basic similarities common to the 26 surviving Pueblos, no two are exactly alike in detail. Not only are there cultural differences, but many languages and dialects are represented. Map 2 summarizes the data which were dealt with in detail in the section on languages. Culturally the Pueblos must be subdivided for intelligent discussion. First will be described the eastern Pueblos of the Rio Grande; then the Zuni and Hopi Pueblos.

A brief descriptive note of the various Pueblos follows:

Taos: Tigua-speaking town, located on Taos River, tributary of the Rio Grande, 52 miles northeast of Santa Fe. Village one of most picturesque of the Pueblos; is composed of two roughly pyramidal groups of houses several stories in height on opposite banks of the river. The Taos people have had many relations with the Ute and Comanche and have many Plains Indian traits. Outstanding public ceremony September 30. No published study of this Pueblo of importance exists. They are notably secretive people.

Picuris: Tigua Pueblo, 40 miles north of Santa Fe. The population is quite small. Its most important public ceremony is August 10. Picuris has not been studied.

SAN JUAN: One of the largest Tewa-speaking Pueblos, situated on the east bank of the Rio Grande, 25 miles northwest of Santa Fe. The houses are not over two stories and are arranged along streets centering on an irregular plaza. The people are rather prosperous, and, externally, somewhat more Europeanized than most of the Pueblos. Some few articles of pottery and beaded buckskin may be found of interest to collectors. The public festival is, as in most Pueblos, the Saint's Day, June 24, with dances, games, and footraces.

Santa Clara: Tewa Pueblo on the west bank of the Rio Grande about 24 miles above Santa Fe. Small and somewhat conservative; especially noted for fine blackware pottery. The architecture is unimpressive. Saint's festival August 12.

San Ildefonso: Small Tewa-speaking community with some Mexican admixture, five miles southeast of Santa Clara on east bank of the Rio Grande. Houses two story and terraced; arranged on streets running parallel to an elongated Plaza. Some poor pottery was and still is made; outstanding feature is great revival of high-grade pottery, tending toward the ancient forms and designs. Public fiestas, January 23 and September 6.

Tesuque: Small, self-contained, and most secretive Tewa Pueblo on left bank of Tesuque River, 8 Miles north of Santa Fe. Town is largely composed of one terraced block of Multi-storied houses. Native dress more common than elsewhere on women. A few pottery objects sold but these and other things made expressly for sale are of little merit. Tesuque least known Tewa Pueblo despite closeness to Santa Fe.

Nambe: Tewa Pueblo 16 miles north of Santa Fe on Nambe River. Town rectangular, built about a square plaza. Kiva or religious structure is more apparent here, partially above ground; outsiders sometimes permitted to enter.

Jemez: Only Pueblo now speaking Jemez language of Tanoan stock, the same as that once spoken at Pecos, now important Archaeological site. Located on north bank, Jemez River, 20 miles northwest of Bernalillo, New Mexico. Houses generally two stories and built in several clusters about a plaza and two parallel streets.

Cochiti: Keresan Pueblo on west bank, Rio Grande, 27 miles southwest of Santa Fe. Site picturesque; houses generally detached and one story. People conservative but hold public ceremonies, particularly on July 14. Considerable pottery made.

Santo Domingo: Large conservative Keresan Pueblo, east bank, Rio Grande, 18 miles above Bernalillo. Houses one or two stories high arranged on four streets. Various public dances, particularly August 4, when occurs one of most striking public ceremonies of the Southwest.

San Felipe: Good-sized Keresan town, west bank of Rio Grande about 12 miles above Bernalillo. Externally one of least interesting Keresan towns; built about a large plaza.

Sia: Small Keresan Pueblo, north bank of Jemez River about 16 miles northwest of Bernalillo. Much of town ruinous; population has been declining for many years. Houses mostly one story. Famous potters; very conservative in mode of life. Best public ceremony August 15.

Santa Ana: Keresan Pueblo, north bank of Jemez River, 9 miles below Sia. Two-story terraced houses along two streets parallel to river at foot of steep mesa. Good pottery.

Sandia: Small Tigua-speaking Pueblo, east bank Rio Grande 12 miles north of Albuquerque. Inhabitants once took refuge from the Spanish among the Hopi, returning about 1748. Extremely secretive and conservative.

Isleta: Largest Tigua Pueblo with around 1000 inhabitants, west bank of Rio Grande, 12 miles south of Albuquerque. Europeanized and a strong center of Catholic missionary work but still retains many primitive and secret rites. Houses one story, arranged in orderly fashion along streets. Furniture and other material aspects of town strongly Europeanized.

Laguna: Large Keresan Pueblo of about 1000 inhabitants; south bank of San Jose River, 45 miles west of Albuquerque. Town picturesquely situated; terraced Pueblo but tending to disintegrate as people move to farming villages. Some picturesque public ceremonies. Pottery very good.

Acoma: Keresan speaking and most romantically situated of all Pueblos on summit of high mesa. Three regular rows of three-story houses comprise Pueblo. Extremely conservative although perhaps less secretive than Rio Grande towns. Pottery of exceptional quality. Best known public ceremony September 2; at all times admission charged to visit Pueblo.

Zuni: Last of famous seven cities of Cibola; language believed to be very distantly related to Uto-Aztekan. Located on north bank Zuni River in western New Mexico, not far from Arizona, west of Acoma. Most houses grouped into pyramid-like structure reaching height of five stories, with several interior courts. Zuni distrust of Mexicans has not been transferred to Americans as on the Rio Grande and despite growing tendency toward secrecy, are still hospitable and practise many native arts, pottery, bead making, a little weaving, and imported silver-working. Ceremonies less contaminated by Catholic influence and more easily seen.

Hopi: Occupy a number of villages in northeastern Arizona north of Winslow and Holbrook. Somewhat inaccessible, the Hopi villages are most interesting because of slight influence exerted upon them by Spanish and Mexicans. The Hopi towns all typical Pueblo agglomerations of terraced houses located on summits of three long mesas several hundred feet high. Agriculture practised at foot with great ingenuity under conditions of extraordinary difficulty. First mesa supports three villages, one of which, Hano, is not numbered among Hopi villages, being founded by immigrants from Tewa on Rio Grande. Other two towns are Sichimovi and Walpi. Second Mesa towns are Mishongnovi and Shipaulovi, and offshoot of the latter, Shumopovi. Third Mesa occupied by Oraibi and nearby another town, Hotavilla, established in 1904 by seceding conservatives from Oraibi. Other new settlements and farming colonies not included in list. Many handicrafts practised including pottery, weaving, basketry, and pottery making. Many spectacular rites include phases open to public view. Best known is biennial snake dance.

(Kidder, Handbook, 1924, Denver Museum Leaflets, 45-46.)

RIO GRANDE OR EASTERN PUEBIOS
Economic Basis of Life

The economic life of the eastern Pueblos must necessarily be characterized very briefly for the unfortunate reason that little study has been given even the simplest phases of this aspect of culture. A few brief accounts exist, either too generalized to be of specific value or confined to such subjects as ethnobotany. For certain of the towns ceremonial connections or relationships have been noted in passing by some writers.

Agriculture: The basic fact in all Pueblo economics is the high dependence upon agriculture. Corn or maize, beans, and squashes or pumpkins and some gourds were the important aboriginal plants cultivated in the warmer climates. Some is still grown but it is largely for ceremonial purposes, although Isleta sometimes has a few hundred pounds which are sold commercially.

Planting times depend on local conditions. The Tewa plant corn in April during a waxing moon; a waning moon would have a baleful influence upon the growth of the plants. Men usually do the field work, although women may assist in planting. The harvest is gathered in late September and early October. Usually the Governor of the Pueblo proclaims the day to begin harvesting, and in the more conservative Pueblos no one would dare harvest corn before this announcement. Men, women and children join in harvesting the corn. The stalks are usually left standing to be cut later to furnish forage for animals. The corn is deposited before the house, where all join in the husking. When a family finishes its husking, it usually helps relatives. It is a time of jollity and merry-making, for there is plenty of food and the Pueblos usually make these occasions of joint labor assume a holiday character. As the corn is husked, large ears are left with two or three strands of the husk attached and placed aside to serve as seed corn. The rest is sorted as to quality and color and stacked in the back rooms of the houses.

The Pueblos are usually very careful of their seed corn. Some of the conservative towns refuse to use seed from any other Pueblo, saying that their own corn, although perhaps not as good as elsewhere, is identified with the village and the people in it. Generally seed corn is kept for two years before planting. Partially this is an old protective measure. Should there be a crop failure, there would always be seed corn for the next year. Other seeds are often treated in the same way.

Various color strains of corn have been preserved by the Pueblos for a long time. These colors often have a ceremonial connection with the directions and are personified. The Tewa

recognize seven varieties with the corresponding color direction of associations and personifications.

Blue corn, North, Blue Corn Maiden
Yellow corn, West, Yellow Corn Maiden
Red Corn, South, Red Corn Maiden
White corn, East, White Corn Maiden
Many-colored corn (i.e., corn with several colors on one ear),
Above, Many-colored Corn Maiden
Black corn, Below, Black Corn Maiden
Dwarf Corn, no direction association, Dwarf Corn Maiden

The last variety may be of Spanish introduction, although dwarf sweet corn which is more certainly of Spanish provenience, has no directional association.

Beans existed in several colors before the conquest. They remain an important food staple.

Pumpkins are still of importance. They are kept for winter and boiled or baked.

Gourds are grown for ladles, spoons, gourd rattles, and pottery-making tools. Generally these plants are sown with maize; at least such was the aboriginal custom.

The sun flower was cultivated aboriginally.

Introduced plants now loom as importantly as do the aboriginal plants. Wheat is particularly important, often being more used than corn. This, and many other plants introduced by the Spanish at an early date, are now considered aboriginal in contrast to more recent introductions. In this category come watermelons, muskmelons, chile, oats, barley, onions, and introduced varieties of beans. Peaches, apricots, grapes, and apples are also grown by the Rio Grande peoples.

In the Rio Grande region most crops are grown by irrigation. This does not require very extensive works, as most of the Pueblo lands are in river bottoms with permanent streams. Occasionally the wheat crops will be planted early if the winter rains and snows have been sufficient, but irrigation is resorted to in order to bring them to maturity. The irrigation ditches are generally community property and are maintained by communal labor, usually under the direction of the war chief. At Jemez, for example, there are two main irrigation ditches.

The fields are north and south of the town. In these are grown the field crops of wheat, corn, melons, and alfalfa. Nearer the town lie garden plots in which are raised chile, gourds, grapes, and what little cotton is cultivated.

The cultivation in most of the Pueblos of the East is a mixture of old and new. Jemez plows with modern equipment, and threshing machines are now used for the wheat which was formerly trodden out by cattle on threshing floors in biblical fashion. But the cultivation of the growing crop must be entirely by the old hand methods, often with wooden hoes. Acoma still objects to the use of threshing machines.

Fields are the property of both men and women, being inherited equally by the children of both sexes among the Tewa. Actually women own more land than men among the Tewa. Standing crops belong to the men. So, too, does the seed corn, and the hay and corn stacks. Once the crops are stored in the house, however, they belong to the women to do with as they please. They determine how they shall be sorted and stored, what shall be reserved for the family use, what put aside for the cattle, what part, if any, shall be bartered or sold. Peach trees are owned apart from the land upon which they stand. The land may be sold separately or the trees sold and possession of the land retained.

In some of the Pueblos, particularly the Keresan, the land is regarded as communally owned. Acoma, which seems to be most clear in its opinions on this subject, recognizes usage rights, however, and a man may even sell his rights in a field. Still, if it were to be abandoned, the tribal officials might allot it to someone else.

Often a communal field is owned and cultivated, the proceeds of which go to the town chief or religious head of the village. It is considered bad for this person to do much work. His time is supposed to be spent in meditation upon religious subjects, and not to be disturbed by economic necessities. Santa Clara is a notable exception in this regard, not having used this system for fifty years if at all. (Robbins-Harrington-Friero-Murre; Parsons, 1925a, 1929b, 1932; White, 1932, 1932a; Goldfrank, 1927.)

Hunting: Game is not now a major Pueblo food resource. Formerly it must have been of some importance. The more of the

Rio Grande Pueblos easterly and those to the north, particularly Taos, had access to the buffalo and went as far as the Arkansas River Valley to hunt them. The Comanche also traded buffalo meat and deer and buffalo hides with the eastern Pueblos for corn, in the historic period. Antelope once were common, deer apparently less so, although deer still survive and are hunted. Bears were hunted by the Jemez; the Isletans never killed them. Wildcats, foxes, probably mountain lions, were killed for their skins. Woodrats were prized by the Sia. The great hunting events of the Pueblos were communal rabbit hunts. These had a ceremonial significance. Curved throwing sticks were used for rabbits.

Traps and snares more commonly were employed in catching birds than game. Birds prized for their feathers alone might be released after the feathers were taken. The eagle was shot with bow and arrow among the Isletans, while the Jemez trapped them. Keeping of eagles alive is less common in the Eastern than in the Western Pueblos.

As in practically all the activities, the Pueblo Indian has ceremonial observances connected with the hunt. Here only individual observances will be noted, leaving the communal hunt to a later time as it is primarily ceremonial in its purpose. These hunt practises are usually connected with the animals of prey. The mountain lion in particular is supposed to have "power" for the hunters and it is fairly common to carry some indication of the mountain lion, such as a fetish stone representing it, or, as at Cochiti, a quiver of mountain lion skin.

The eastern Pueblos usually have a hunt chief or medicine man who in some cases is the head of a religious society which is consecrated to the animal gods and the hunt. From him the hunter usually obtains a prayer stick, perhaps some sacred cornmeal and shell and turquoise powder. The hunt chief prays. The hunter, once on the hunt, also prays. Perhaps the hunt chief loans the hunter a small stone image of the mountain lion. Either a shrine is set up by the hunter or he seeks some sacred spot where he leaves his prayer stick (stick with feathers attached made in a ritual fashion.) He leaves cornmeal and shell powder, and prays, usually to the animal gods. Particularly, if he is hunting deer, he will pray to the "father" and "mother" of the deer, asking for their children. Then he will really begin his hunt.

While the hunter is away, his family must observe good conduct. Women may take this time to clean and renovate the house. When a deer is killed, the hunter usually points its head toward his home, says prayers, and perhaps makes offerings of cornmeal. At the house the deer is often covered with a blanket or with valuable necklaces. All these rituals are to appease the deer spirit so that other deer will permit themselves to be killed. Similar observances are also practised with rabbits. At Laguna the hunter gives the head and eyes to his father's sister, who prays for his further success. Four days after the killing of a deer, there is a dance in which two stuffed deer figure. (Parsons, 1920, 1925a, 1929b; White, 1932; Goldfrank, 1927, 1932.)

There is some doubt as to how extensively the eastern Pueblos used fish. Many southwestern peoples refuse to eat them at all. The Isletans describe catching fish with hooks and with nets but some informants deny that they are eaten. Cochiti formerly used a large fish net made and employed communally under the direction of the governor, the catch being divided equally among the people of the town. (Robbins-Harrington-Friere-Marreco, 1916; Parsons, 1932; Goldfrank, 1927.)

Wild Plant Usage: At present the Pueblos seem to rely much less on wild products than formerly and it is possible that their diet is at present more restricted than in original times. The Tewa know the uses of many plants but now rarely employ them. There seems at no time to have been any one important wild product extensively utilized as is the case with other areas.

Of the plants used for food, the pinon nut today easily leads the list. The more important plants listed for the Tewa are the acorn, juniper berries, yucca fruit, the fruit of the various opuntia cacti, picked with tongs made of cleft sticks, the ball cactus, ground cherry, blazing star roots, and purslane. The Rocky Mountain bee plant and the tansy mustard were prepared primarily for use as pottery paints but were often eaten. Various plants were used as flavorings, such as the four-o'clock, horsemint, etc., but were not important parts of the diet. Wild walnuts were gathered in connection with hunting trips to the Arkansas Valley. Chokeberry cakes were traded by the Tewa from the Jicarilla Apache. Other plants were used for purposes other than food and will be considered later. (Robbins-Harrington-Friere-Marreco, 1916, Denver Art Museum, Leaflet No. 8.)

Domestic Animals: The only known domestic animals of the Pueblos, before white contacts, were the dog and the turkey. Neither were eaten, the turkeys being raised exclusively for their feathers. The modern Pueblos show little taste for domestic animals and of late years there is reason to believe their numbers are actually declining among the Rio Grande. A few sheep, fewer cattle, occasionally pigs, are raised.

Food Storage and Preservation: Practically all foods are preserved by drying, after which they are stored in the inner rooms of the house. Corn is stacked up without being shelled. Other foods may require preparation before drying. The harvest period in particular is a gala sight in the Pueblos. Piles of corn awaiting husking lie before the houses. Strings of chile pappers hang from the beams. Meat may be drying on scaffolds on the houses. Strings of various colored seed corn, the husks braided together, hang along the walls. Squash and pumpkins cut in strips are drying over poles.

Corn and cereals are prepared by grinding. Presumably the corn is usually parched before grinding, as it appears to be rarely cooked with lime or ashes to remove the hull as is the case in Mexico, a fact commented upon by the early Spanish explorers. The grinding is done by women, on flattish stones set on the floor at a slight angle and called metates. They use a handstone or muller, usually referred to as a mano. The metates of the Pueblos are characteristically grooved and set in a bin. Usually there are two to four bins and grinding stones, and several women work together, the meal being ground successively finer by each woman. In olden times the women might sing or the men might sing to them as they ground. While the songs are remembered in some Pueblos, they are not sung now. Indeed, in the eastern Pueblos the grinding stone is disappearing and the cereals are ground in mechanical mills. So, too, are disappearing the more characteristic foods which require special preparation, particularly the thin wafer bread. In a conservative village such as Acoma, however, the chief foods are corn and mutton, usually cooked in stews highly seasoned with chile peppers.

Wheat is now utilized in a variety of ways but generally it is ground mechanically. A leavened bread is made in a conical outdoor oven of Spanish derivation. Various kinds of tortillas of wheat flour mixed with shortening and water are also used. They are cooked on a hot griddle like pancakes, but they are dough rather than batter mixtures.

Pumpkins, squashes and muskmelons are dried, sometimes peeled and cut into spirals. Peaches are pitted and dried; apples are sliced and stuck on sticks for drying.

Various wild plants, opuntia cactus fruits (prickly pear), tansy mustard, Rocky Mountain bee plant, and others, are cooked or steamed and then dried in cakes for storage. At Cochiti, Bandelier describes the method used in preserving the fruit of the yucca baccata.

"The women went together to gather the fruit in September and October, baking it until the skin could be taken off and the fiber removed, then threw it into caxetes (small dishes or jars) and mixed it thoroughly, boiling it alternately, until it came down to a firm jelly or paste. It was then spread into large cakes about 1 inch thick and left to dry on hanging scaffolds, changing it from time to time until it was perfectly dry. It was then cut into squares (or, at Acoma and Laguna, rolled into loaves) and preserved. In spring it was eaten in various ways, as paste, or dissolved in water and drunk, or tortillas and guayabes (wafer bread rolls) were dipped into the solution, thus using it like molasses or syrup." (Robbins-Harrington-Friere-Marreco, 1916; Parsons, 1925a, 1929a, 1932; White, 1932, 1932a.

Houses: The typical houses of the Pueblos are of stone, usually rather roughly dressed, laid up in adobe mortar, and covered with adobe plaster. In modern times there has been an increasing use of adobe bricks, but apparently in the early historical period there was relatively little employment of this building material. Jemez now uses the moulded adobe brick almost exclusively. This moulded form of adobe brick is post-Spanish. The roofs are flat except where American influence has introduced modern types of roofing materials such as corrugated iron.

The typical Pueblo houses are grouped together and are of two or more stories. The best type of the conservative Pueblo in the East is at Taos where the houses are arranged in two roughly pyramidal piles, one of which reaches a height of seven stories. Of late years there has been a tendency even in conservative Pueblos toward the building of detached houses outside the regular limits of the quasi-communal structure. This is especially marked in the development of farming communities

at a distance from the main Pueblo where temporary field shelters used during the harvest season have been gradually improved into regular houses which in some cases are now the regular residences of their owners, the town proper being visited only on ceremonial occasions.

Anciently, the only entrance into most of the Pueblo houses, particularly on the ground floor, was by mounting to the roof by movable ladders and descending into the rooms below by means of other ladders projecting through roof hatches. On the Rio Grande the roof entrance has become relatively rare except in ceremonial houses, and doors and glazed windows are common. In general the darker back rooms are utilized as storage places or for the keeping of ceremonial regalia, while the living quarters are the front or upper story rooms. Corner hooded fireplaces are still common; the chimney and probably the hooded fireplace are post-Spanish.

House ownership in the eastern Pueblos is not sexually determined as in the west. Both men and women may inherit houses or own them. There is no inheritance by clan as a rule. Among the Tewa, a widowed spouse, rather than the children, will inherit a house. Again, a multi-roomed house may be divided among the children, each one getting a room. Or, if all but one of the children have houses of their own, the remaining child will inherit the entire house. In general more men own houses than women. In Nambe the proportion is three to one. Approximately the same conditions exist at Isleta and Acama.

House floors are usually of beaten earth or clay except in very progressive houses. The wet earth is stamped down and smoothed with stones. This work, the plastering of the walls, and sometimes, as at Sia, some of the actual work of house construction, are the work of the women, but men generally do the heavy work. It is customary to re-plaster the walls each year in July or August. At Isleta new houses are built in March.

A special type of structure to be considered is the kiva or ceremonial chamber. The typical kiva of the Rio Grande is round in ground plan and partially or wholly subterranean. Usually it is detached from other buildings. The walls are raised above the ground level in many cases and the roof is reached by a ladder or a stairway from the outside. Ingress to the interior is by a ladder through the smoke-hole in the roof.

There is usually a central fireplace with a fire screen of stone or adobe which is ornamented with religious symbols. The walls are also painted with symbols. Few whites have ever actually seen the interior of these structures which are the centers of the religious and ceremonial life of the Pueblos.

There are numerous exceptions to the rule that the kivas are round and subterranean. At Jemez and Acma they are above ground and rectangular, forming part of the regular house block. At San Juan, Santa Clara, San Ildefonso, and Tesuque they are also rectangular and above ground but detached in location. Isleta has five kivas, of which two are round and detached, two rectangular and undetached, while the fifth is a sort of general assembly house. Rectangular kivas are the rule in the west. (Parsons, 1925a, 1929a, 1932; White, 1932, 1932a; M. C. Stevenson, 1894.)

Dress and Ornament: Women alone have retained the aboriginal among costumes for daily wear in the Pueblos. In Taos, almost alone, do men retain to any extent the old costume, and there both men's and women's dress is apparently primarily the dress of the Plains rather than of the Pueblos. On the Rio Grande the women of most of the Pueblos appear in native dress only on the occasions of important festivals. At Jemez women's dress is fairly typical: a rectangle of black native cloth about 5 x 3 feet is wrapped around the body, passing over the right shoulder and under the left arm, being sewn together over the right shoulder and down the right side. It is belted at the waist with a native woven sash. Underneath the dress is commonly worn an American cotton slip. On the back is a square of cotton or silk cloth serving as a shawl, although commercial shawls are also worn. The feet are encased in hard-soled moccasins and the legs in buckskin leggings. Both women and men wear the hair in a belted queue, the forehead and side locks being banged and hanging loose. A narrow band of folded cloth is worn about the head at times by men.

Men's dress formerly was an apron or kilt. Probably it differed little from the ceremonial kilts worn at the present time. Blue woolen shirts from the Hopi were once popular but are of course post-Spanish. A short, narrow breechcloth of white cotton, the ends passing under a belt and hanging down a short distance before and behind, is still worn on ceremonial occasions or when occupied at hard work. The more northern

Pueblos of the Rio Grande are distinguished by a slightly longer and wider breechcloth. Formerly robes of cotton cloth, woven rabbit skins, dressed skins, or turkey feathers were worn for warmth. The costumes sometimes seen among the older men today of white cotton trousers to below the knee, split on the outer side, and a cotton shirt worn with the tails outside and girded with a cotton belt, is a Spanish innovation.

In the way of ornament, a wide variety existed of turquoise and various shells which were worn in the ears or strung about the neck as beads. Later, silver work of various kinds was added. (Parsons, 1925a, 1929b, 1932; White, 1932, 1932a; M. C. Stevenson, 1894.)

Pottery: The peoples of the Pueblos are and have been known for many centuries as among the finest potters of the New World. At present pottery making is carried on in all the Pueblos except Sandia, although J. Stevenson reported in 1880 no knowledge or memory of pottery making at Taos, the pottery then being made there being a product of women married in from other Pueblos. Stevenson, however, secured pottery from Sandia. Probably there has been a certain decadence and resurgence of the art, and anciently the pottery was almost surely made in all the Pueblos.

Pueblo pottery falls into two classes: utilitarian, plain, and undecorated, which is employed for cooking, food storage, and general household purposes; and the decorated ware which has a high esthetic value in many cases and, while sometimes used for certain domestic ends, and still more commonly employed ritually, yet today is made to a considerable extent for tourist sale.

The quality of the ware produced in different villages varies considerably. Even in a Pueblo noted for the excellence of its pottery, it will be found that a few women are the source of the best ware. Others make inferior specimens, some make only plain utilitarian ware, while yet others make no pottery at all, securing what they need from their neighbors by trade. Decorated ware is found at Acoma, Cochiti, Jemez, Laguna, San Ildefonso, San Juan, Santa Ana, Santa Clara, Santo Domingo, Sia, Tesuque, Zuni, and at the Hopi villages. There are some 18 distinct types of modern ware now made or which have been made in recent times. It is impossible to go into great detail about each town. Processes, however, seem to vary little from town to town, and these can be adequately treated by giving a resume of Guthe's study of San Ildefonso, today the source of the best Rio Grande pottery.

The first question usually asked about elaborately decorated pottery is: What do the designs mean? With regard to the pottery made for sale or which can be seen about the Rio Grande Pueblos, even by the prying ethnologist, it can be fairly safely said that usually the designs mean nothing. They are decorative devices added for the same reason we decorate some of our own objects--to satisfy an esthetic sense. In Pueblos where the best pottery is made today, however inarticulate the potter may be, she generally has a definite esthetic ideal. She may be unable to express it, but she is usually consistent in her likes and dislikes and this consistency necessarily springs from some consideration of taste, either developed or acquired. Certain designs do, of course, have definite meanings, particularly those which introduce stereotyped religious symbols such as the jagged line representing lightning. In this sense there is not only a meaning but a degree of symbolism, but while a bird design naturally "means" a bird, this is not the only type of deeper and symbolical meaning which is usually the subject of such an inquiry.

The making of Pueblo pottery is fairly uniform regardless of quality. The clay is gathered from the nearest suitable deposit to each Pueblo and taken to the house. There it is worked over to remove lumps and impurities. Sometimes it is winnowed by throwing it upward or allowing it to fall several feet; other times it is sifted. It is then stored. At Zuni in the West the clay is sometimes ground on the grinding stones. When desired for use, the clay is first mixed dry with the tempering substance. The latter, either finely ground pot sherds or minerals of various sorts occurring in outcrops near the Pueblos, is prepared just as is the clay. Its addition to the clay is rendered necessary by the fact that very few clays in their natural state can be worked without the vessel cracking during the drying process. A few clays containing sand (Santa Clara) need no temper. They used for smoking vessels at San Ildefonso also needs no temper. The clay and tempering materials are mixed together thoroughly, the proper proportions being determined by the color of the mixture. Water is then added and to the clay mixed with the temper, is kneaded to the required consistency. In the west the kneading is done on a stone; on the Rio Grande a cloth or a skin is usually used. Small irregularities, pebbles, etc., are removed with the fingers as the clay is kneaded.

For all but the smallest vessels, the base, after a preliminary shaping with the fingers, is pressed into shape on a mould, usually a piece of broken pottery, but sometimes a specially made and fired base. As the pottery is shaped, it is turned on this base. "The potter first forms a pancake-shaped pat of paste from six to eight inches in diameter; this she presses into the mould, or puki, to form a base. Then the walls of the vessel are built up by the addition of successive ropes, or rolls, of paste laid one upon another. The small bowls are the only exception, for they are formed in the hands of the potter from a single lump. In some cases the building is done all at one time; in others, and always with the larger vessels, a few rolls are added, then the piece is set aside to dry a little before the addition of a few more rolls. The potter usually builds two or more vessels at once in order to permit work upon one while the other is undergoing a brief period of drying. The preliminary shaping of the vessel is done either in the course of the building or after the building has been completed. The obliteration of the junctions between the rolls and of finger-marks is accomplished with the kajepe, or gourd spoon; further use of this implement aids in giving the vessel its shape. The final step, the finishing, consists of going over the entire vessel carefully, first with the kajepe, or gourd spoon, then with the fingers, to remove slight irregularities to even the lip and rim. The finishing is a slow, exacting process, and the difference between the artist and the mere pot-maker comes out at this stage of the work." (Guthe)

The paraphernalia with which the potter works are simple in the extreme. The bases and the gourd moulding spoons have been mentioned above. The gourd spoons are simply gourd fragments, usually from a broken gourd vessel, shaped to suit the potter's individual peculiarities. A potter will have from four to a dozen or more of these which are kept in a pail or bowl of water beside her, which she also uses to moisten her hands and the clay when necessary. A scraper, formerly, perhaps of sharpened potsherd, but now commonly a case knife or the top of a baking powder can, a number of fine-grained smooth pebbles, used as smoothers or polishers, and a group of paint brushes, complete the list. The paint brushes are made from the leaves of the yucca. A section is cut out and one end is shredded or macerated.

When the moulding and shaping of a vessel is completed, it is dried in the sun, unless rain threatens, when it is dried in

the house. Under optimum conditions the drying may be concluded in half a day. Defects in the clay or manufacture are often revealed by cracking at this stage. It is essential that all moisture be dried out of the vessel before it is fired.

Usually a number of vessels are dried before scraping is begun. At San Ildefonso, where production is in quantity, it is customary to have forty or fifty vessels ready. Generally the surface of the clay is moistened with a wet rag, then the surface is smoothed down with a scraper, the primary purpose being to remove every trace of irregularity and imperfection. Sometimes the walls are too heavy, in which case they are thinned. Finally the clay is moistened again and the film of paste distributed as thinly as possible over the surface by rubbing with the hands, a wet cloth, a piece of sandstone, or a corn cob.

When the vessel is again dry, usually a slip is applied. This is generally a clay which will assume the desired color on firing, and is ground and made into a saturated solution in water. It is applied with some sort of a mop, now usually of cloth. Some slips require no polishing; others need vigorous rubbing with the smooth polishing stones. Large vessels are slipped and polished in sections. If there is to be no design, a little grease or a greasy rag may be rubbed over the surface when the slip is dry. This improves the luster.

Decorations are made with the brushes mentioned. Native paints, some of mineral pigments powdered and dissolved in water like the slip, are used. There is a little use of vegetable pigment, notably the Rocky Mountain bee plant which is boiled and the liquor subsequently dried into cakes. It should be cured a year or more for the best results, after which it is dissolved in water for use. It produces a black color when fired. It is sometimes mixed with mineral pigments before applying. The drawing of the designs is done freehand, the potter's hand not coming in contact with the vessel. There is notable variation in the ease with which potters draw the designs. Men sometimes draw all or part of the designs, the only time they assist the pottery-making process. Designs are geometrical, conventionalized life-forms, and more or less realistic life designs. In comparison with ancient pottery, modern designs show a great development of curvilinear effects in place of rectangular designs.

The only fuel used in firing pottery at present is dried manure, usually cow or horse dung. Sheep dung is preferred when obtainable and is the common article of the Hopi. As none of these could have been available to the aboriginal potters, we do not know just what they used. The manure is shaped or cut into cakes 18 or 20 inches in diameter and of varying thickness. It is stored for future use. The only kindly used to start the fire is finely split cedar wood.

The site of the pottery firing is prepared by building a hot fire on the soil to dry away any surface moisture. The dung cakes must also be thoroughly dry or smoking will result. The pottery must be raised from the ground so fuel may be introduced below it. Iron grates are now much used. Cedar kindly is placed beneath it. There is no effort to prevent the pottery from coming in contact with other pieces, but the dung fuel and kindly must not come in direct contact with the vessels. The pottery is completely covered with the fuel and sometimes additionally fuel is added during the burning. When vessels are considered sufficiently fired, the oven is broken apart and the pottery removed to prevent over-firing. The time varies from thirty to sixty minutes, depending on the type of clay and ware being made.

To produce the well-known blackware of the Rio Grande, the fire is smothered with loose or pulverized manure which produces a dense smoke, part of which penetrates the vessel. In the firing of ordinary pottery, smoke must be avoided or black spots will be left on the vessels.

When the pottery is fired; it is lifted out with sticks or wooden pokers and allowed to cool, usually in the shade. When cool enough to handle, the adhering ashes are wiped off and the vessels often rubbed over with a slightly greasy cloth to improve the luster.

Shapes are extremely varied, particularly in the towns where pottery making is somewhat decadent, and many forms are the result of American influence. Typical are large jars, more or less globular, with small mouths but sometimes with shoulders, constricted necks, and flaring rims. These are from 18 to 30 inches high and 15 to 24 inches in diameter. They are used to store water, prepared foods, and grain. Regular water jars are usually globular, fairly-wide-mouthed, and short necked, from

6 to 12 inches high. Wide-mouthed bowls ranging from 1 to 8 inches in depth and from 4 to 18 inches in diameter are used for preparing and serving food. Globular or nearly globular canteens are also made for water. These comprise the utilitarian forms. There also are other shapes made principally for ceremonial use. They include dippers, bowls, saucers, rattles, square-sided boxes, often with terrace ends and used for meal bowls, and miniature bird, animal, and human shapes.

It is difficult to segregate the pottery from the different Pueblos unless one is an expert. Santa Clara and San Juan are particularly noted for the polished black and red wares produced there. Although of a high lustre, the shapes are not very pleasing on the whole, and the black is frequently with a brownish tone. Isleta pottery is generally poor and confined largely to shapes invented for the tourist trade. A black and red on white pottery is the best. Parsons says all native Isletan pottery is undecorated and that the present decorated types were learned from Laguna colonists in the last century. Cochiti pottery is best identified by its use of religious symbols; elsewhere forbidden on non-ceremonial pottery. By a general slipshod execution of extended but thin designs they are applied somewhat irregularly. Santa Domingo's characteristic old style pottery is of black geometrical design on a light cream ground. More modern and less artistic is a black and red on cream in floral and bird designs. Sia pottery is noted for the variety of its design. Its wares are traded extensively to other Pueblos and may be found almost anywhere on the Rio Grande. The basis pottery is red, the slip white (or latterly yellow) with designs in black or red and black. Designs are in general strongly conceived compositions with better coloring than is usually found. Acoma makes the lightest and thinnest pottery. The base is red to dark brown, the slip is white to yellow-cream. Design colors are yellow, red, orange, brown, and black. Design types include a completely geometric style of design covering most of the surface, and bird or flower forms somewhat resembling the best forms of Sia. Both types are recent developments. Laguna pottery is to be distinguished from that of Acoma primarily by its greater weight, thickness, and coarseness.

San Ildefonso has been omitted from the above list for special treatment. It is the leading pottery making center of the Rio Grande in number of wares and excellence of design, although

the pottery is perhaps not quite as good as that of Acoma. Before 1915 there were five regular wares. Two were indistinguishable from Santa Clara polished black and polished red. The other wares were black on a cream slip and tan base, "polychrome" made with red and black figures on a cream slip and tan base, and black designs on a dark polished red slip upon a tan base. (Color of the base is of course dependent upon the characteristics of the clay used to make the vessel: it represents the "natural" color of the clay after firing.) On most of these the designs were applied carelessly and with poor brush work. About 1915 there became apparent a renaissance of San Ildefonso pottery and the invention of new types. This had its inception, apparently, in the employment of San Ildefonso Indians in archaeological excavations on the Pajarito Plateau. It was suggested that some of the ancient designs be reproduced and within a few years a marked improvement in San Ildefonso pottery began to be noticed. This has been stimulated further by the action of a group of intelligent Santa Fe people who have established a fund to buy those pieces coming on the market which are of marked artistic excellence.

The best known of the new wares is a polished black ware with designs in dull black or gray, invented about 1919. Polychrome and black-on-red have continued but the designs have reverted to the more geometric type with few realistic figures. The execution is masterly on the products of the best potters. Much of the pottery is now marked on the bottom with the first name of the pottery maker, a convenient but regrettable indication of sophistication and self-consciousness. (Guthe, 1925; Parsons, 1932; J. Stevenson, 1883, 1883a; Denver Art Museum Leaflets: Pueblo Indian Pottery.)

Basketry: The eastern Pueblos made little basketry and today there is scarcely any to be found of native manufacture. Willow was the most used material. Sifting baskets are noted in particular for the Tewa. At Cochiti the men formerly wove baskets, and perhaps still do.

Weaving: Weaving is almost a vanished art on the Rio Grande. It was usually, perhaps always, done by the men. At Cochiti the men not only weave belts for the women but cut out the shirts and sew them. At San Felipe serapes or blankets were formerly woven, and possibly still are. At Jemez, women's dress is made of native cloth which is said to be secured from the Hopi and from Santo Domingo. At Isleta home grown cotton is woven into

belts by the women. Four women only remained, a few years ago, who knew the technique. Dance kilts and leglets are woven by the men but this was formerly done by the women. Both sexes weave blankets. (Parsons, 1925a, 1932; Goldfrank, 1927; White, 1932, 1932a; Dumarest, 1919.)

Minor Manufactures: Stone working is a very minor part of Rio Grande material culture at present. Grooved arrow straighteners or polishers, stone mortars and pestles for paint making, metates and manos, grooved stone axes, hammer stones, knives, and arrow points were formerly made. The metate and mano alone are now manufactured.

The extent of bone working is unknown. Formerly there must have been much. Stevenson in 1880 collected a horn with a perforation used for straightening arrow shafts.

Woodworking, of course, vanished early. Digging sticks and war clubs were made of oak by the Tewa. Bows were made of the locust (cat's claw), oak, currant, three-leaved sumac, or, preferably, the osage orange secured by trade. Arrows were made of the Apache plum (Fallugia paradoxa) or of the common reed, phramites. The latter was also used to make gaming sticks.

Beads are still made in some Pueblos, especially Santo Domingo. Inlay work is still done also.

Rope and cord were made from yucca fiber or milkweed fiber. Pipe stems were made of the box elder (the shape and material of the pipe is not clear). Brooms were made by tying bunches of mesquite grass. Deer and animal hides were cured, but I find only a note that they were sometimes dyed with alder bark. A slow-match of twisted cedar bark for carrying fire or as a light is mentioned for the Tewa. (Robbins, Harrington, Friere-Marreco, 1916; J. Stevenson, 1883, 1883a.)

Games: Games recorded for the Rio Grande Pueblos include forms of the hidden ball game, in which a ball is hidden, usually in a series of tubes, and the opponent guesses the location; and canute, a game in which pieces are moved along a board in accordance with the throws of a set of cane dice. There are various race games and hockey games but they appear to be primarily of ceremonial significance. There are numerous

introduced games and amusements such as rooster pulls and horse-races which occur on the occasion of Spanish introduced fiestas. (Culin, 1907; Harrington, 1912.)

Personal Life

Conception, Pregnancy, and Birth: Sometimes, as at Isleta, efforts are made to prevent conception. These are usually magical in character and are not in general use. After a woman becomes pregnant, she is forbidden various activities because of beliefs that in some magical way the child will be injured. For example, she must not go into a house where a dead person is lying. She should be generous, especially to children. She should not turn her back on the fire or the sun. For a varying period before birth is expected, intercourse between husband and wife is forbidden. The father also has prenatal prohibitions for the welfare of the child. He must not go hunting, slaughter animals, or engage in other proscribed activities.

Men are rarely present at birth; never the husband or close relatives. A woman midwife usually officiates. In some towns, at Isleta and perhaps Tewa, the medicine societies have a specialist who is sent, but in most cases a member of a medicine society would be called in only in case of emergency although frequently a medicine society member will purify the expectant mother shortly before the birth is expected. In any case the assistance of a medicine society member is purely magical; whatever mechanical manipulation is used, generally massage or squeezing the abdomen, is performed by the midwife. Birth is generally in a kneeling position, the infant being received on a sheepskin placed on a specially prepared sand bed. Twins are considered unlucky.

The umbilical cord is cut or burned with a coal. The after-birth is thrown in the river, buried on the river bank, or under the house ladder or in one of the corn fields. The infant is bathed shortly after birth by the midwife, medicine society member if one is present, or one of the grandmothers. Generally the child is held up and offered to the cardinal directions, and a prayer said. Confinement is four days, that is, during this time the mother does not leave the house, although she may get up sooner.

After four days the mother leaves the house for the first time. The child is taken out by a member of a medicine society, in which case an altar is set up in the room first and certain rituals performed, or some female relative takes the child outside and offers it to the sun with a prayer. Usually the child's first name is applied at this time, although practise varies a little. In most towns it is the father's sister who commonly gives the name. Offerings are frequently made at this time of prayer sticks, sacred meal, etc. Names usually refer to natural objects or phenomena.

A fire poker or a perfect, fully kernelled ear of corn is usually kept by the child to protect it from witches and ghosts, particularly if the child must be left alone in the room. Ashes are frequently rubbed on the child as a protection against witches. Lightning-struck wood is preferred in making cradles for the same reasons.

The upbringing of children is rather strict. They are forced to rise early and are taught to help their parents. Boys are often forced to bathe in icy water in early morning and to go several hours without drinking water. Nevertheless, parents are fond of children and rarely abuse them. Lullabies are sung to infants.

Infants are nursed, usually well into the next pregnancy. If it is desired to wean the child, bitter substances such as sheep gall are rubbed on the nipples.

Children are often given presents by the masked dancers: dolls for the girls, bows and arrows for the boys. These presents are secretly made and given to the dancers by the parents.

There are practically no ceremonies directly connected with adolescence. Both girls and boys are instructed as to the physiological changes at this time, before they occur, and a girl may be told to keep her feet dry, not wash her hair, etc., but there is no social or ceremonial recognition of the first menses as is common among so many primitive tribes. About the time of physiological maturity boys are usually initiated into the secrets of the masked dancers. (Parsons, 1919b, 1923c, 1925a, 1929b, 1932; Goldfrank, 1927; White, 1932, 1932a; Dumarest; Spencer.)

Marriage: On the Rio Grande, marriage practises are heavily overlaid with Catholic influences. At several of the towns marriage in the Catholic Church is almost obligatory. The general pattern is to arrange marriages through a family council. The young man informs his relatives of his choice (usually the matter has been arranged with the girl secretly) and the family discusses his choice. If they approve, which is usual, they approach the girl's relatives, who similarly discuss the matter. If all approve, the man gives presents to the girl -- a dress, belt, moccasins. After an early morning church wedding (if this is required) there is a series of wedding breakfasts. On the Rio Grande proper, the man stays with the girl's parents for a few days, they then remove to the man's parents house or to a house of their own; but in the westerly towns they live permanently with the wife's family. All this is pretty close to Spanish custom and may well not be native.

Bridal dress is elaborate and partly native. At Cochiti the bride wears tanned deerskin leggings or moccasins and a dress of dark blue Hopi cloth. A gaudy piece of colored silk trimmed with lace hangs over the hips and, if wealthy, the bride is loaded with necklaces of turquoise, little silver crosses, and a necklace of silver balls. The fingers are covered with rings of brass and silver. The groom wears a new shirt, red kerchief, new trowsers, new moccasins, dyed red and yellow, and an immense blanket, often drawn in at the waist with a broad leather belt ornamented with round silver plaques of Navaho workmanship. At his left side he wears a little bag, sometimes beaded, containing cornmeal or pollen. On feast days leggings of red and yellow buckskin fringed the same way at the seams.

Marriage restrictions cannot be discussed fully here except to say that where there is no other bar than blood kinship, the extent to which blood relationship forbids marriage is more extensive than the restrictions of the Catholic Church. (Parsons, 1919b, 1925a, 1929b, 1932; White, 1932, 1932a; Goldfrank, 1927; Dummerest.)

Death: Burial of the dead occurs the same day, unless it cannot be completed before nightfall. In the latter case burial is postponed until the following day. Various rites are performed with the corpse either by relatives, by members of the ceremonial corn group to which the deceased belongs (Isleta), or by the head of a medicine society (San Felipe). The rites

vary from town to town, but consist essentially of sprinkling the corpse with sacred meal or pollen, making a meal road from the corpse to the door, washing the corpse or washing the head of the corpse. Not all these occur in every village. Food and sometimes belongings are usually buried with the dead. Generally the door of the room must be kept open until the corpse is buried or, sometimes, until four days after death.

The soul of the dead is generally supposed to remain about the house for four days. At that time a ceremonialist, usually the head of one of the medicine societies, sets up an altar and performs rites to purify the house and exorcise the inmates. Food offerings are made to the dead and either miniature garments and other articles, or the clothing and other property of the dead, slightly mutilated to show they are for the dead, are offered at shrines along with food and prayer sticks (of which a special variety is made for the dead). The shrines are usually to the north, which is where the dead are supposed to go. The dead are almost universally conceived of as becoming cloud or rain spirits, the well-known kachina, which are represented in the masked dances. Not all the kachina (Kerésan k'atsana, Tewa Oxuhwa) are supposed to be the dead but the dead with few exceptions become rain-bringing spirits. When a really prominent ceremonialist dies, it is expected often that there will be a thunderstorm, which is an indication that the rain spirits have come for the soul of the dead. There is no formalized ancestors-worship as such, however.

Most of the Pueblos under Catholic influence observe All Soul's Day, November 2. All sorts of food are taken to shrines at the north or to the church. The people fast and all the property of the household is displayed. It is believed that the spirits of the dead return this night and partake of the essence of the food offered and admire the property of the household they have left. In some cases the men assemble in the ceremonial houses and kivas and some of the societies dance, often at each house in the village. (Parsons, 1920, 1925a, 1917, 1929b, 1932; Goldfrank, 1927; White, 1932, 1932a; M. C. Stevenson, 1864.)

Sickness and Curing: Aside from certain diseases of recognized natural origin, all sickness is believed to be sent by witches. Any longstanding illness or epidemic is caused by them. There is nothing a Pueblo Indian mortally hates and fears as

much as a witch. In former times a person suspected of being a witch would be killed; at least this is known to have occurred in some villages and probably once was universal, as it was among other tribes. The American government is probably the only deterrent today in many towns. Witches are the more dangerous in that anyone, even a close relative, may be a witch and working against one's health and welfare. There are a few exceptions to the witch-theory of disease causation. Certain diseases may be supernaturally sent by animals, particularly ants, which may cause skin disease.

Witches cause sickness by sending foreign objects into the body of the victim or by stealing the soul, or heart. The two are usually equated. The methods used by witches are not usually known. Witches generally have places of assemblage, frequently in caves, and are believed able to turn themselves into various animals, dogs, cats, owls, coyote, crow, wolf, bear, and into one type of clown. Owl and crow feathers and cactus spines are part of a witch's paraphernalia. The particular clowns known as koshare (or equivalents) are believed to have close contacts with black magic and so are the members of the medicine societies. Anyone seen around graveyards, peering into doors and windows, etc., may be suspected as a witch. There is no doubt that many of these concepts have been reinforced by Spanish witchcraft beliefs, but on the other hand the whole pattern is undoubtedly basically similar to widespread and unquestionably native practises and beliefs in respect to the power of evilly disposed medicine men.

Ashes, bear paws, and flints of all sorts, particularly knives and arrow points, are considered potent prophylactics against witches.

If witchcraft is suspected, a member of a medicine society is called to effect a cure. Should the illness be serious, the whole society may be summoned. The curing involves the setting up of an altar, the use of various items of paraphernalia such as fetish stones figuring the prey animals, mountain lion, wolf, bear, etc., which are patrons of the medicine societies; the use of bear paws, flints, medicine water, and sacred meal, prayers and exorcism, and divination by gazing into the medicine bowl or a crystal. If the disease is caused by intrusion of foreign objects, the medicine men either suck the objects out of the patients body or brush them out with feathers.

If the disease involves the stealing of the heart by the witch, the doctors must find the heart. This involves going out from the room in which the cure is being effected and fighting with the witches which have the heart in custody. The doctor wears a bear paw on his left arm and carries a flint knife. He is accompanied by the war captains. He has struggles with the witches, invisible of course to anyone else, and eventually brings back the heart, sometimes a doll within which is a ball of rags containing grains of corn, or simply the ball itself with the corn inside. Examination of the condition of the corn grains reveals whether the heart has been damaged. If it has, the patient will not recover, but if they are in good condition, they are swallowed by the patient. Sometimes the doctor captures a witch which is brought in as a small figure and killed by the war captain. The doctor frequently returns in an exhausted condition and goes into a sort of trance or frenzy. (See section on medicine societies.)

In most of the towns there is a communal curing and cleansing ceremony each spring at which all the medicine societies perform in their chambers. Everyone goes to one or another of the medicine society meetings and is exorcised and perhaps has objects sucked or brushed from him. The doctors often go out to fight witches and return with a "communal heart" containing many grains of corn, one of which is given to each person to swallow. (Parsons, 1920, 1925a; White, 1932, 1932a; Goldfrank, 1927; M. C. Stevenson, 1984; Dumarest.)

Social Organization

Two types of social organization appear on the Rio Grande, the bilateral patrilineal family similar to our own, and a clan organization. In a clan organization, each person is born into the group of one parent, the mothers in the case of the Pueblos, and all members of the mother's group are regarded as relatives, so that marriage is necessarily with someone not a member of the mother's group or clan. Usually the members of the father's clan are also all regarded as relatives and hence un-marriageable, even though there be no actual blood relationship.

In Isleta, Taos, Picuris, and probably Sandia, that is, in the Tigua speaking Pueblos, there are no clans, not even a vestige. Descent is reckoned patrilineally or, perhaps more accurately, bi-laterally. On set of relatives is not more important than the other. Marriage with any blood relative,

including cousins, is forbidden. House and land ownership and inheritance follow the same principles that they do among ourselves; the surviving wife or husband may inherit, or property is divided more or less equally among the children regardless of sex -- conditioned, of course, by the usual considerations of need, age, and previous assistance rendered by the parents, as well as purely personal questions of favoritism.

The Tewa towns have a vestige of clans, membership in which is through the mother, as elsewhere among the Pueblos. The name applied to these clans (sun, corn, turquoise, etc.) are the same or similar to names occurring in towns with a full fledged clan organization. Tewa clans, however, have no regulatory function. Marriage may be within the clan or outside it, according to personal desires, and the entire social fabric is organized as if the clans were not there, *i. e.*, precisely as in the clanless Tigua towns. Consequently it is evident that either the clans are decadent or are relatively recent importations which do not really function in Tewa society. The latter hypothesis seems the most reasonable at present, for although Spanish influence might be suspected in the patrilineal formation of Tewa and Tigua society, yet certain aspects such as the forbidden degrees of relationship in marriage go beyond Spanish custom and there is no a priori reason to assume that the bilateral family is not native. It is well known to occur in various primitive societies, including many of the neighbors of the eastern Pueblos.

The Keres and Jemez have a full-fledged clan system with descent reckoned through the mother. The more westerly towns have the most complex system. This reckoning of descent through the mother has important effects upon inheritance and property ownership. There is a tendency towards female house ownership and inheritance of houses by women rather than men, which in the most western Pueblos such as Acoma, becomes more developed but far from universal. As we shall see, female house ownership and inheritance become universal with the western Pueblos, the Hopi and Zuni. In all the Keresan towns and at Jemez there is a marked consciousness of the clan members, clan heads who settle disputes within the clan and represent clan members in problems arising with members of other clans, etc. Santo Domingo, Jemez, Laguna, and Acoma have ceremonial clan functions.

Despite the clan organization, the bilateral family does

not disappear among the Keres and Jemez. Both father's and mother's relatives are recognized and accorded a place in family relations. (Parsons, 1923c, 1923d, 1924b, 1925a, 1929b, 1932, 1932a; Goldfrank, 1927; White, 1932, 1932a.)

Political Organization

The political organization of the eastern Pueblos is known to be a modified Spanish form, in large measure. Usually the Pueblos are referred to as intensely democratic on the basis of their town government which is assumed to be elected. Only in one town, Isleta, does there seem to be actually the form of election, and here all the candidates are nominated by the religious organization. Elsewhere the meetings which are assumed to be elections are actually held to notify people of the choices which have been made by the town chief or head of the ceremonial organization, usually with the advice or approval of the heads of the medicine societies. Consequently it is clear that the government of the Pueblos is actually a theocracy.

The town officials all serve for one year without compensation. They are chosen by the religious officials in December and are generally invested with their offices on January 6, when the important officers receive canes symbolizing their authority. The canes now in use are generally the so-called Lincoln canes. These are sprinkled with corn meal and blessed by the town chief and sometimes other functionaries, usually in the town chief's house. There is usually a council in addition to the elected officials, of varying composition.

The civil officials have rather restricted functions. They settle internal disputes of a secular nature such as land disputes, theft, murder, domestic disagreements, etc. Murder is very uncommon and apparently sometimes is compounded by a payment to the family of the victim. The civil officials also are very useful in acting as a screen to the real government, the theocracy. They are the go-betweens between the theocratic officials and the whites, particularly the government. So well do they serve this function that whites who have lived for years in fairly close contact with the Pueblos are often unaware of the existence of the town chiefs and other ceremonial officials.

The grouping of officials can best be illustrated by specific examples. Isleta has a governor, lieutenant governor, a

lieutenant, head war chief, six war captains or assistant war chiefs, two majordomos in charge of the irrigation ditch, a town crier (life-long office), and a council of 12 men.

The Tewa have a characteristic organization scheme which runs through both secular and religious offices, of a head man and two assistants called the right-hand man and the left-hand man. San Juan officials are governor and three assistants plus right-hand man (lieutenant) and left-hand man (sheriff), the outside chief (war captain) with five assistants who act as police, and a crier who holds office for life. The war captain plans the winter dance series, guards ceremonies, and repairs the ceremonial houses. Some of the other Tewa towns have one or more fiscals who are connected in Spanish towns with the church but here have only the function of burying the dead.

Jemez has a governor, lieutenant governor, two fiscals with five assistants, two war captains with six youths as assistants.

Cochiti has a governor and lieutenant governor, war captain and lieutenant, fiscal, lieutenant, six "little" fiscals and six helpers of the war captain.

Acoma has a governor, two lieutenant governors, three fiscals, majordomo or ditch boss, and three outside chiefs.

Although the war captain is an annually appointed officer with police functions, who corresponds to certain Spanish officials, it is clear there has been some sort of amalgamation of functions here. The war captain as a policeman does not obey the governor but the town chief as head of the religious organization. They are intimately connected with ceremonial organization, often plan dances, repair religious or ceremonial houses, often have ceremonies of their own to perform, and must be present at every meeting of the medicine societies, whether members or not. In fact, at Cochiti no secular official may be a member of a medicine society. (Parsons, 1920a, 1923c, 1923d; Goldfrank, 1927; White, 1932, 1932a.)

Religion

The religion of the Pueblos may be summarized under the heading of three or four fundamental cults. These are, first

and preeminently, particularly in the west, the Kachina-death-weather control and fertility cult, the curing-animal supernatural cult, particularly developed in the east, and the war-hunting cult. Possibly the last is a relatively modern fusion of two separate cults due to a decline in the importance of the two activities, but in many ways they seem to be intricately associated. Each of these cults has its organization which is responsible for carrying on the activities and rituals connected with it. These organizations are to some extent parallel and sometimes interwoven. In similar fashion functions of each organization are somewhat blurred so that the curing and war societies may at times exercise weather control functions, while the kachina cult sometimes exercises curing and even war functions. The emphasis also varies from place to place so that, for example, the Hopi medicine societies are preeminently weather control societies with the curing function distinctly in the background. There are at best many loose ends which cannot be tucked into this neat scheme, but a scheme we must have to effect any concise statement of Pueblo religion and ceremonial, and certain broad generalizations may be made validly on the basis of these categories.

The weather control group or kachina cult seems to be the most fundamental aspect of Pueblos religion, although the kachina cult itself is probably a later overlay upon an older weather control organization. The kachina spirits are supernaturals who bring rain and good health. They were created at the time of the first emergence of the people from their underground home or shortly thereafter. Some of the Pueblos say that part of the people fell in the water and were drowned after the emergence, thus becoming the kachina. Usually it is said the kachina, who thus represented the dead, formerly returned to earth and visited the living, dancing for them in the villages. To see their dead relatives made people sad; furthermore, whenever the kachina came, they took back with them some of the living, which still saddened those upon the earth. Finally the kachina gave the people masks and costumes they now wear so that they could dress like the kachina and perform the dances of the kachina. Then the actual kachina would return in spirit, bringing the rain with them. While wearing the mask, the person impersonating a kachina becomes for the time being the actual embodiment of the spirit which is considered to reside in the mask. Thus the impersonator is charged with supernatural power and becomes dangerous for ordinary people to touch until he has been discharmed at

the end of the performance after removing the mask. Today the dead are said to become kachina and return with the rain just as do the old kachina. When a prominent ceremonial leader dies, it is said the clouds will gather and it will rain because the kachina have come for him. Occasionally it is said also that the dead return to the earth mother, who live below ground or below a lake, in the original subterranean home of the peoples of the world, but this does not prevent them from becoming kachina also, for these spirits are associated with lakes and in some obscure way with the earth mother. Usually the kachina are conceived of as living in the west where they live as do the people upon earth, having the same sort of organization and performing the same ceremonies.

Sometimes some of the kachina are conceived of as not being ancestral beings but to have been created or to have existed at the time of the emergence. There does not seem to be, however, any distinction in attitude toward these pre-existent kachina. The recent dead in any case are not supposed to be impersonated nor are specific kachina impersonations supposed to represent specific dead. There is no real ancestor worship involved.

In some places such as Cochiti there are other spirits called shiwanna or rain clouds, who are spoken of as if they were separate from the kachina. Even here, there is some vague association and in most towns the rainclouds and kachina are identified, the rainclouds being merely the mask behind which the kachina move and bring bowls of rain which they pour upon the earth. It is not the cloud that rains.

Other supernaturals are supposed to have power to produce rain. The war gods or god especially are powerful rain makers. The functions are less specific, however, and they are not supplicated by the rain maker groups.

In general the kachina are masked in impersonation, but this is not universal. There are unmasked kachina ceremonies in most Pueblos and in the east the number of masked performances is relatively small. Added to the fact that there are fewer types of masks or impersonations in the east, and that the mask is virtually non-existent at Taos, not being worn in dances, it is reasonably evident that the center and probable place of origin of the kachina cult is not on the Rio Grande but to the west. More specifically, its main development probably took place at Zuni and thence spread to Hopi, Keres, and

Tewa, the last being the least affected. This is not to say that the whole kachina cult is a purely Zuni creation: Zuni is merely the place where the kachina cult is most firmly rooted with more masks and ceremonies, and where presumably more of the development took place than elsewhere.

Associated with the kachina are one or more, generally two, clown groups. These are supposed to have been created in various ways, according to native theory, but the primary purpose they serve seems to have been to prevent people from being too saddened by seeing the kachina and also to act as heralds, police, and general assistants of the kachina. They almost always appear only in association with the kachina, performing various clowning actions, including obscenity, burlesque and satire, as well as more serious functions, acting as police, bringing in the kachina, and often having important rituals of their own connected not only with the weather, but with curing and sometimes with war. In addition, it is often suspected that they have close association with black magic. They are sometimes classed as kachina themselves of a special sort. Their close association with kachina has yet to be explained on both historical and psychological grounds, as well as the problem of their dualism. This dualism runs through much of the kachina organization and requires explanation before the history of Pueblo ceremonialism is adequately explained. It appears most strongly where the kachina organization is least developed but is present everywhere and seems most closely associated with the weather control aspect of Pueblo religion.

The kachina organizations and the kachina dances are intimately associated with those religious structures known as kivas. These are in many respects men's club houses as well as religious structures. Their organization in connection with the kachina cult approaches that of a men's secret society, for in many of the Pueblos the women and uninitiated boys are theoretically and in some cases actually in ignorance of the true nature of the kachinas, believing that the impersonations are the actual spirits materialized upon earth.

Although the kachina cult as such is not universal or fully developed among all the Pueblos, the kivas and some sort of attendant organization are to be found everywhere, and function as a rain and fertility cult, whether they equate specifically with the kachinas or not. Since the great bulk of the kachina ceremonials and dances, as well as the kachina organization are

associated with the kiva, while no other cult or organization has any direct relation with the kiva, it may be postulated with some certainty that the kiva and kiva organizations are an earlier and conceptualization of the rain and fertility cult which to the west developed into the kachina cult. This cult has not yet spread to all the Rio Grande pueblos in fully developed form.

It is in the kachina and kiva organizations that one also finds an expression of dualism. In the east, the Kiva organization is on a dual principle; that is, the entire population is divided in membership between two kivas. This finds its best expression among the Tewa and most easterly Keresan peoples as well as at Isleta. Taos has some sort of dual organization which is not yet fully understood.

This division of the Pueblo into two parts, or moieties, has usually been described in connection with social organization. It is true that it looms as large in the consciousness of the people of the Rio Grande as does the clan among the western Pueblos, but it has no real relation to the social organization. In some places the moiety or dual division to which one belongs is determined by the membership of one's father, but this is far from universal and there is no moiety or kiva on marriage, and there is no regulatory function in marriage. A woman will join her husband's moiety or kiva on marriage, and, in case of inter-moiety marriages in some Pueblos, the children will alternate between the kivas, the eldest to one, the next eldest to the other, etc. All this is hardly characteristic of any type of social organization and the moiety is evidently a ceremonial device associated with the kiva and with rain and fertility functions.

The clown organizations fall in with this dual division everywhere except among the Tewa. In most eastern towns they are definitely connected with the kivas by a variety of associations and in both east and west they are associated with the kachina. At Isleta the clown and the kiva organizations are identical. Elsewhere the two clown organizations are connected with the two kivas and also have the same division into winter and summer associations that is found among the kivas. It is entirely possible that the clown is the unmasked prototype in the east, out of which developed the western kachina. At Acoma and Zuni one of the widespread clown organizations has become identical with the kachina society and lost its clown functions. Acoma, Zuni, and Hopi do not have the dual kiva or moiety system.

Acoma and Zuni have, or formerly had, six kivas connected with the kachina organization, but these kivas are themselves aligned into two groups upon certain occasions. The aberrant clown group of Zuni, the koyenshi, may have developed to take the place of the clown group absorbed in the kachina organization. (Parsons, 1920, 1920a, 1923d; 1924, 1925a, 1929b, 1932; White, 1932, 1932a; Goldfrank, 1927.)

The Pantheon: The Pueblo pantheon varies relatively little from town to town. There is no real grading or hierachy of the supernatural in the Pueblo mind. They are ordered, not by the character of their powers, but by the sequence in which they emerged from the underworld into the present world. This sequential aspect is therefore intimately connected with emergence myths. The type of these myths is rather similar throughout the Pueblos, although the specific content varies considerably. The Pueblos have no account of a real creation; rather, the various spirits, animals, and people emerged from a sort of underworld. The people emerged in different orders; so, too, did the various spirits which have power over the universe. In these emergence myths, which include a description of a lengthy period of migration before the people finally settled in their present locations, occur the incidents which led to the founding of the present order of society and which afford the justification of the customs and rites practiced. Consequently there is an ordering or hierachy of spirits which has nothing to do with their various powers and importance.

In the main the supernatural powers and spirits of the Pueblos do not command or dominate one another. Each spirit or class of spirits or supernatural beings has its sphere of influence and its functions. Within this sphere it is supreme, but it has no influence or effect upon that which lies outside its sphere. Consequently there is no rigid scheme of ritual or observance ordered with relation to the differing importance of the spirit or class of spirits.

In view of this we find that, although the spirits or pantheon of the Pueblos are very homogeneous, the importance assigned the various spirits varies from town to town. Thus the important war gods of Zuni become mere mythological personages at Taos.

The spirits of the Pueblos all exhibit anthropomorphic characteristics. Like the Greek gods, they have been known to

mingle with men in human form. Even the spirits conceived of as animals have only to remove their skins and they will become men in shape and appearance, although retaining their supernatural attributes and powers.

The Pueblo spirits may be classified as cosmic, including Sun, Moon, Earth, Stars, Wind; animal: including the prey animals, Puma, Bear, Wolf, etc., Water Serpent, Spider; and ancestral or human, including most of the kachina, Skeleton and the War Gods. "Sun is a traveller, and begets sons, and tests them; certain stars have once lived as men or women on the earth, not to speak of the very human war spirits who are yet associated with the stars; Earth is a benevolent mother; Spider, a resourceful and ever helpful grand-mother; Wind, a malevolent old woman; Salt and Turquoise are touchy beings who run away from careless men; Coyote is a trickster who not merely cheats the other animals but beguiles girls into marrying him; Paiyetamu or Taiowa is a seducer of a higher class, a youthful musician; the Water Serpents act as police to men; Mountain Lion is the great hunter; the Bears are doctors. . . .

"Identified with direction are the cloud beings or spirits of rain fertility, par excellence the kachina, including warrior spirits such as the shalako or salyobia of Zuni or the towae of the Tewa, and the Water Serpents of Jemez. The zenith of the east is associated with the Sun; the nadir with the Mother who lives underground. At Zuni, less definitely among Keres and Tewa, the animal supernaturals are also assignable to the directions -- Mountain Lion to the north, Bear to the west, Badger to the south, Wolf to the east, Eagle to the zenith, Mole or other burrower to the nadir." (Parsons, 1924, p. 146.)

A few specific examples may illustrate the scope of the pantheon. The Tewa have the Mother or Mothers, here not clearly separable from the corn ear fetishes by which they are represented; Sun, Moon, Stars, all more important than in most Pueblos; and lightning, Universe or World Man, Fire Flower Woman, Wind Woman, Wind Man, Ragged Woman, Mean Old Woman, Mean Old Man, Salt Woman, Spider Woman, Cactus Grandmother, the Cloud Beings (Oxuhwa or kachina) who are the dead and send the rain when kachina dances are performed, the Grandfathers, War Spirits, Two Water Serpents, and Poseyem. (Parsons, 1929b, pp. 264-276.)

At Laguna, the Sun is head of the pantheon, associated with his son, or perhaps himself as a youth. The Sun Youth is the "handsome lover of many maidens." Then follow, Moon, Stars, (e. g., Milky Way, Morning Star, etc.), Twin War Gods, associated with a star, Storm Clouds, Lightning, Earth Mother, most authentic deity and the central figure, and the kachina.

At Acoma there is the Sun, father of the twin war gods, Masewi and Oyoyewi; the Kachina, anthropomorphic rain spirits identified with the storm clouds; the k'obishtaiya, the ill-defined but powerful spirits who dwell in the east; the Mother, who is perhaps most important, and who lives, as elsewhere, at the place of emergence; Moon, Stars, Clouds, Lightning, the Four Rain Makers of the cardinal directions; the Hunting Gods, among who the Cougar is paramount; and the Medicine or curing gods. (White, 1932, pp. 66-67. Also cf. Parsons, 1924, 1932, 1932d, 1925a; Goldfrank, 1927; White, 1932a.)

Ritual

Regardless of the nature of ceremonials among the Pueblos, their times, places, and purposes, there are certain elements which display a degree of constancy, recurring again and again in household or personal observances as well as in society functions and elaborate communal ceremonies. These elements are ritual practises, following more or less stereotyped forms, varying somewhat from Pueblo to Pueblo, yet everywhere fundamentally the same. They are used over and over again in a bewildering variety of combinations. Ceremonies which at first glance have nothing in common, either in purpose or external appearance, upon analysis reveal an underlying similarity in that each displays a fundamentally similar basic pattern into which these ritual "blocks" have been fitted, often in entirely different order. It is at least theoretically possible to have two entirely different ceremonies in which the details are identical, the differences lying entirely in the different combination of elements. It is this factor alone which renders Pueblo ceremonialism in any degree comprehensible. Without these elements of coherence, the variability would be too great for human comprehension. (Parsons, 1924.)

Fetishes: First of importance in the rituals are the fetishes. The most significant class are the perfect ears of corn which usually represent the Earth Mother. These may be

hollowed out and filled with typical seeds of squash, melon, beans, etc., and usually are elaborately dressed with feathers and beads. In this form they will be used by heads of ceremonial groups, clan heads, town chiefs, or may be possessed by individual society members. Plain and unadorned the perfect ear may protect the pregnant woman and the newborn child from witchcraft, or may be placed upon the heart of the dead. There are also stone fetish animals, crude representations of those animals which are considered endowed with supernatural power, particularly mountain lion for hunting, bear for curing. The war gods have stone or wooden images. Carved or uncarved stones of odd shapes or qualities may have fetishistic significance. So, too, may certain masks. All fetishistic articles must be kept carefully wrapped or placed in bundles, should not be looked at by the uninitiated, and should be ritually fed (with corn meal) by their custodians.

Shrines: All the Pueblos make use of shrines which are usually stones set in some particular spot, often in semi-circular form with some of the stones upright, sometimes merely piles of stones. Certain springs and unusual natural formations are also treated as shrines. Many of these shrines have a particular character, i. e., they are used to make offerings for some specific purpose. Others are more general. Many have a "road" leading out from them, a cleared trail by which the spirits are supposed to approach the shrine. Offerings at shrines consist of meal, prayer feathers or prayer sticks, and ritual cigarettes of cane filled with tobacco. (Parsons, 1929b, pp. 238-241, 1925a, p. 104; Dumarest, p. 207; White, 1932, 1932a; Goldfrank, 1927.)

Altar, Road, Medicine Bowl: Altars are made by various societies and certain religious functionaries such as the town chief. The altar varies according to the group making it and the occasion. A curing society which was performing weather control ceremonial would make a different type of altar than when it was functioning as a curing society.

Certain ritual patterns and representations are drawn upon the ground by sprinkling colored cornmeal, charcoal, and colored sands. These representations include clouds, lightning representations, or various supernaturals including the Water Serpent or Horned Serpent. Some of these things may be represented on a wooden frame forming a back and sometimes wings to the altar. These altars, usually referred to as slat altars, are limited in

the east largely to the western Keres and to rain making ceremonies. Foremost in importance is the laying out of appropriate fetishes and it is their proper arrangement as much as anything which constitutes the altar. Upon the ground altar is also placed a medicine bowl which plays a part in every ceremony, a ritual bowl filled with water in which certain herbs have been steeped according to the formula called for by the occasion. In addition there are feathers, gourds filled with water, from sacred springs, and various offerings such as meal, cooked food, prayer feathers or sticks, perhaps miniature objects such as games which are associated with certain supernatural beings. From the altar leads a meal line, often clear to the door of the room, which is considered the "road" and is believed to be the actual path to be used by the spirits in visiting the altar. The making of the meal line is a distinctive characteristic of many ceremonies; the kachina dancers, for example, may follow a meal line sprinkled before them. (Parsons, 1924, 1929b, (p. 252), 1923d, 1925a, (p. 119), 1920a, (p. 60), 1932; White, 1932; 1932a.)

Offerings: The paramount offering is corn meal. Sometimes ground shell or turquoise is substituted. It is offered on every conceivable occasion, usually sprinkled from the fingers, when prayers are said, on the head and person of individuals, on sacred objects of any sort, or on altars and shrines.

Next in importance, perhaps, are feathers and prayer sticks. Feathers may sometimes be offered loose, but generally they are tied ritually in certain specified fashions for various supernaturals and occasions. They are also a part of the prayer stick. The prayer stick is made in almost infinite variety of forms, each one associated with a particular purpose or supernatural. The prayer stick is cut or carved, usually painted, and has feathers of different kinds attached to it in specified ways. No adequate summary of the types can be given pending the publication of a detailed analysis.

The prayer stick seems closely associated with the masked kachina cult. Its use is most strongly developed where the sacred mask cult is at its greatest efflorescence; it declines in importance as the mask cult declines, and disappears in Taos where there are no masked dances. Prayer feathers, on the other hand, have a distribution beyond that of the masked kachina dances and are probably an earlier form. In some towns

the right to make prayer sticks belongs to special ceremonial officials, and a layman wishing a prayer stick to offer for some purpose takes corn meal and materials to the proper person in order to have the prayer stick made. In any case, certain prayer sticks are identified with specific societies and officials, and would not be made by a person not entitled to make them. To do so would, of course, be quite pointless in Indian point of view, for an improper offering would not be received, although it is doubtful if any bad effect is believed to threaten in such a case.

Smoking is frequently, but not always, a form of offering. The smoke is blown as a present to the supernaturals. Offerings of tobacco, particularly in the ritual form of tobacco wrapped in corn husk or cane cigarettes, are important, and offerings of corn meal between individuals have a compulsive character. It is virtually impossible to refuse a legitimate request, whether it be to help with housebuilding, or to bring the medicine society of which one is a member to cure a sick person, if it be accompanied by these ritually important presents. Indeed, the offerings, when made to the supernaturals seem to have a compulsive character, and one finds in the literature statements that the spirits "have to help us" because certain offerings have been made.

Food is a customary offering but seems to be restricted to particular occasions. Food is usually offered to the dead or to the earth by throwing a bit into the fire before eating. Food may be placed on shrines or altars on special occasions.

Paint pigments sometimes form sacred offerings. (Parsons, 1923d, 1924, 1929b, 1925a; White, 1932: pp. 125-131, 1932a; Goldfrank, 1927.)

Ritual Actions: Certain widespread and rather stereotyped actions accompany most ceremonials. Offerings, smoking, certain movements of the hands are usually made to the cardinal directions (which usually include zenith and nadir). Water is sprinkled or given to drink from the medicine bowl. Feathers are brushed over patients in curing, along house walls to purify houses, dipped in the medicine bowl and people sprinkled with the medicine water. One breathes from a ceremonial or sacrosanct object, obtaining thus some of the virtue inherent in it.

Bathing is a preliminary to many ceremonials. It precedes adoption and initiation rites, and follows ceremonies. Hair washing in particular is practised, the head being bathed in yucca suds by a person who stands in some special social or ceremonial relation to the subject. It is ubiquitous in the west; less so on the Rio Grande. Fasting is observed in connection with ceremonial periods. This varies from merely eating lightly and abstaining from various foods to almost complete fasting. Contenance is particularly important before undertaking any action of ceremonial significance. Ceremonialists, impersonators of masked dancers, society members, and a few others, are usually confined to the kiva or to a ceremonial chamber for a period of four days preceding a ceremonial event. (Parsons, 1924, 1925a, 1920, 1920a, 1929b, pp. 254-260, 1932; Goldfrank, 1927; White, 1932, 1932a.)

Ceremonial Organization

Town Chiefs: Head of the ceremonial organization in all Pueblo towns of the east is the town chief. At Isleta the town chief is the source of all ceremonial life; he gives permission for all ceremonies, asks for certain ceremonies, and conducts the winter rain ceremonies. He keeps the sacrosanct supplies, native grown tobacco and cotton, flint-made fire, etc. He may not kill the animals used in his rituals, nor may his assistant. He has a corn mother fetish which is considered the mother of all the fetishes of the town. His land is cultivated for him and his wood chopped. Two women are appointed to care for his ceremonial house and to feed the scalps of which he is custodian. He has two assistant town chiefs who have a distinctive ritual of their own to perform. His first assistant is called the war chief at times. He talks differently, i. e., mentions the corner directions instead of the ritual cardinal directions, refers in prayers to snow, hail, scalps and other unpleasant things which other ceremonialists do not mention. He gets his power from the horned serpent; he handles snakes and is prominent in racing rituals and witchfinding. The second assistant is called the Bow Chief and the guardian of the War Chief. He is custodian of a ritually used blade about one foot long.

This sketch gives an idea of the importance of the town chief and his assistants. There are minor variations but in broad terms the picture might be applied to any of the Pueblos of the Rio Grande so far as the position of the town chief is

concerned. Generally it is the town chief who names or nominates all the secular officials and who dictates their actions while they are in office. He is in effect a Priest-Chief from whom springs all authority and all religious ceremonial.

The Tewa have a somewhat similar organization with two assistants who are called right-hand and left-hand men. The principle of succession is for the right-hand man to succeed the town chief, the left-hand man to succeed the right-hand man, and for a new appointee to fill the office of left-hand man, the same principle being followed at Isleta and Jemez. At Jemez, however, the principle of clanship enters the ceremonial picture for the first time, because the town chieftainship group must always be of the Young Corn or of the Sun Clan.

In contrast to the entry of the clan principle at Jemez, the Tewa are governed by the moiety principle, which has no social implications as does the clan. Among the Tewa the moiety looms so importantly that there are two entire sets of town chiefs (and other officials) who belong to the two moieties and are classified as summer and winter people. During a relatively short winter period the Tewa Pueblos are ruled by the winter people and the Winter Chiefs; during the somewhat longer summer period, the villagers are ruled by the summer people. This exchange of functions appears in the ceremonial life in that the ceremonies of transfer are more important among the Tewa than is the solstice, elsewhere the all-important central point of the ceremonial life.

Among the Keres the town chief is not dual as among the Tewa, but another important principle appears. The town chief is frequently associated with the Giant curing society. Often he must be a member of or be named by this society. His two assistants may be distributed among the other important societies, as at San Felipe where his two assistants must be members of Flint and Kwirena (no translation) societies. Among the western Keres, particularly Acoma, the town chief must again be of a particular clan, the Antelope clan.

Another important function of the town chief, which does not appear among the Tewa to any great extent, is to "watch the sun". Many of the important ceremonies, especially of the Keresans, are fixed by observation of the rising and setting point of the sun. This is particularly true of the solstice ceremonies which loom importantly in the Keresan ceremonial calendar.

In addition to the town chief there are various other important ceremonial officials. Perhaps next in rank are the heads of the medicine societies. These require extended discussion and will be taken up later. There is generally a hunt chief, often the head of a hunting society, and there is or once was (in many Pueblos it is extinct) a war society, usually composed of men who have slain an enemy and taken a scalp. The chief of the war society was probably once a very important personage, as much priest as war leader. At some Pueblos, notably Cochiti, where the office became extinct since Dumarest's time, i. e., within a generation or so, there is evidence that the war priest or chief was the ranking officer of the village rather than the town chief. The place of the war chief is now filled by the annually appointed war captains, probably originally the police officials of the Spanish secular village government, who now act as the executors of the town chief's orders, police ceremonies, enforce observances of the necessary rituals in conservative towns, and apprehend, try, and punish witches.

At Isleta there are chiefs of the moieties, which means they are also chiefs of the kivas and of the clown societies, all three being identical in membership. There are also the Grandfathers, life-long masked clown performers associated with the moieties, and a male and a female kachina organization chief. Finally there are the ritual corn groups, which are rain making societies, each with a chief and usually some assistants who perform distinctive rituals.

The Tewa have in addition the chiefs of the clown societies and their assistants as ceremonial leaders.

The Jemez likewise have chiefs of the clown societies who perform rituals along with the old men of the societies.

Some of the Keresans also have additional ceremonial officers. San Felipe has heads for the kivas connected with the kachina organization. At Cochiti there are three "managing" societies which have special functions in connection with the ceremonial life, generally taking care of the more esoteric societies. (Parsons, 1920, 1920a, 1923c, 1923d, 1924, 1925a, 1929b, 1932; White, 1932, 1932a; Goldfrank, 1927.)

Kachina Cult and Societies: The kachina cult in all the well known Pueblos, except possibly Taos, is always a tribal

society; that is, all the men belong to it. Usually there is a chief to the kachina group or groups. Tewa kachina groups seem vaguely formulated and the data are not clear whether it is a real tribal society, although an initiation ritual with whipping is reported. For Jemez, data are similarly unsatisfactory; possibly the kachina group is the same as the two men's societies of all-inclusive membership. Cochiti has a single kachina society to which all men belong. The head of the kachina was formerly the war priest. San Felipe has three groups of kachina, two associated with the two kivas, the third with a mask house. Laguna organization again is obscure. At Acoma the kachina are associated with the kivas, and kiva initiation is initiation into the secrets of the kachina.

The kachina are divided into many classes, as expressed in the masks and costumes worn by impersonators. Of some of the classes there are believed to be only one or two. Others are in "sets" of fixed number. Of other types of kachina there are believed to be an unlimited number and there is no limit to the number which may appear at a dance. The masks are usually of hide, formerly of buckskin or buffalo hide, but now usually made of cow hide. A collar of spruce, foxskin, or other material is worn with most masks and there are varying and elaborate details in the costume. The kachina are also divided into dancing kachinas and non-dancing, the latter being usually of those classes which are limited in number and which more or less police the dances.

The function of the kachina is to produce rain by dancing. On the Rio Grande, the kachinas dance for one day after any rain ceremony, but most particularly after the rain retreats of the medicine societies. At Acoma there is an exception, the great occasion of the kachina being a four-day summer rain dance with no dances after society retreats. (Parsons, 1920a, 1923c, 1923d, 1925a, 1929b, 1932; Dumarest; White, 1932, 1932a.)

Medicine Societies: The medicine societies are secret organizations of medicine men or shamans, the chief function of which is curing disease. In addition they are important as rain-makers and among the Keresans play an indispensable part in the solstice ceremonies. They play a part at birth and death usually, and political control is largely in their hands through their function of advising the town chief.

There is apparently considerable variation in the various

towns, but if one considers the societies which are sub-orders of other societies in certain towns, the two virtually universal societies in all the Pueblos are Flint and Fire. In addition nearly all the Keresan villages have Giant and Shikame (no translation). Another universal society is the Snake society, but this is so specialized in nature that it is not a true curing society. Other widely occurring, but not universal societies are Eagle, Ant, and, among the Keresans, Lightning or Thunder Cloud and K'apina (no translation).

The various societies may be divided into "schools" of medical practise. Most important are those which specialize in witch-caused diseases. The Snake group specializes in the curing of snake bite and at some of the Pueblos is not a formally organized medicine society, but merely a loose aggregation of individuals who have been snake bitten and thereafter are believed to be able to cure snake bite. Lightning, among the Keresans, cures lightning shock, broken bones, and "bad smells in the stomach." The Ant school is based on the idea that ants cause such ailments as certain skin diseases, sore throat, etc., by entering the body, and must be extracted, usually by brushing with eagle plumes.

The majority of illnesses are caused by witches sending foreign objects into the victim or stealing his heart. If a person is ill, the father or a relative of the patient takes a handful of meal to the medicine man desired, or to the head of a society if the illness is serious and the presence of the entire society is desired. If only one doctor comes, he smokes, sings, mixes medicines in a bowl of water, puts ashes on his hands and massages the patient, and sucks out any foreign object located. If a society is summoned, it usually spends four days in retreat in the society house, fasting, using emetics, and exercising continence. Should the case be serious, of course this preparatory period will be omitted. Then it spends three nights smoking, singing and praying over the patient in his house, performing the final curing ceremony the fourth night.

The paraphernalia are elaborate. A meal altar or meal painting is made, upon which, and before which, are laid the corn-ear fetishes each member usually possesses, stone figures of the war gods, of Paiyatymo, (a sun spirit), of lions, bears, badgers, etc., and, among Keresans, images of the Kobishtaiya, a group of ill-defined spirits dwelling in the east. Medicine

bowls, skins of the forelegs of bears, flints, eagle plumes, rattles, and other objects are used. A rock crystal is usually employed by the head doctor, and sometimes the others gaze into it to gain second sight, being able to see witches, etc. Roads of meal are drawn on the floor from the door to the fetish animals on the altar, for it is from the spirits of these animals that the medicine men gain their curing power. Their ritual is in large measure the summoning of these animal spirits to their assistance in the curing.

The medicine men wear only a breechcloth. Their faces are painted red and they wear a line of white bird-down over the head from ear to ear. Songs are sung, people are exhorted to believe in the medicine men, water is poured into the medicine bowl from the six directions, and each doctor puts some herbs in the bowl. They rub their hands with ashes and massage the patient. They suck out objects from the patient's body and, by gazing in the crystal or the medicine bowl, they see witches. During a curing ceremony witches are believed to gather about the house to thwart the success of the cure and they are even asserted to sometimes rap on the door. Consequently the war captain and his assistant guard the house, standing outside the door during the curing rituals, because they have power over witches. They carry a bow and arrow, because a rifle would not injure a witch.

If the doctors decide the heart has been stolen by a witch, they try to bring it back. This usually means fighting with the witches. They go armed with flint knives, wear a bear paw on the left forearm, a bear claw necklace, and a whistle of bear bone. The war chief and his guards attempt to follow the doctors to protect them but often it is impossible, for the doctors have been known to leave the ground and fly through the air. The fights with the witches are strenuous and realistic. Sometimes the witches tie the hair of two or three of the doctors together or a doctor will be found on the ground tied up with wire. The witches attempt to overcome the doctors by blowing their breath, which has an unbearable odor, at them.

Sometimes the doctors capture a witch. It is usually man-like in shape and about a foot and a half high or higher, or it may be in the shape of some animal. Often it looks like a koshare clown. The witch is brought into the house, placed before the fireplace, and the war chief shoots it with bow and arrow, after which the body is burned. The doctors frequently

return smeared with blood or "black" after a fight and also fall in trances or spasms upon their return.

Even though the witch is not captured, the medicine men usually return with the heart, a ball of rags within which are one or four grains of corn. The patient is given the grain to swallow. When the ceremony is over, and all present have been given medicine to drink, food is brought out and eaten, first by the medicine men, then by the others present. The medicine men are given baskets of meal and flour in payment for their services.

Most of the Rio Grande Pueblos hold a communal curing ceremony in February or March in which all the medicine societies of each Pueblo participate. They are held at the direction of the town chief or the war chief and each society meets in its own chamber at the same time. The paraphernalia and ritual are the same as for ordinary curing ceremonies. Most of the inhabitants of the Pueblo visit one or another of the ceremonial chambers and are "cured" indiscriminately. Objects are extracted from their bodies and they are given medicine to drink. Witch fighting and the recovery of a communal heart sometimes occur.

Membership in the societies is for life. Both men and women become members but only the men perform cures. Children also may join if thought old enough to keep the secrets. There is a head man or "father" of the society, usually the oldest and most experienced member, who calls meetings, directs ceremonies, and performs some special duties. Doctors have their power entirely as the result of their membership in the society; medicine power is never the possession of individuals as such.

The most approved method of joining a society is by becoming a member after having been cured of an illness. Occasionally someone may apply for membership. A third way, used only in a few towns, is by "trapping". A person who violates some ceremonial rule, e. g., building a fire outdoors during the initiation period, is forcibly initiated.

Little is known about initiations as they are entirely secret. No member of a medicine society has ever consented to act as an informant or reveal the secrets of his society. There is a term of training, usually through a period of years, in which the novice is trained in prayers, songs, ritual, feats of

and burlesques and act as policemen, preventing people from coming too close to the dancers, clearing the dance place of pebbles, and helping the dancers should any of their costumes become disarranged.

Hunting Societies: In some cases the hunting societies are also curing societies, but this seems a late modification of their functions. In some towns, particularly Tigua and Tewa, there appears to be only a hunt chief who performs the functions elsewhere assigned to the hunting society. These functions are the presiding at and performing of necessary rituals in connection with communal hunts, and providing individual hunters with the necessary charms, fetishes, and offerings.

Jemez and Cochiti also have eagle societies, the members of which hunt eagles to secure the necessary eagle feathers used extensively in all rituals and in the decoration of prayer sticks of certain types.

War Societies: Evidently all the Pueblos once had war or scalp takers' societies, although at present they are virtually or entirely extinct in many Pueblos. Sometimes those who have killed a bear or mountain lion are also admitted to membership. Their functions are, or were, extensive. They seem frequently to have performed regular scalp ceremonies, regardless of whether a new scalp had been taken. These may be regarded as a method of appeasing the spirits associated with the scalps and also as rain ceremonies, for the scalps are believed to have influence as rain makers. The scalps are usually kept in a covered jar and are regularly "fed" corn meal or other ritual food. They also sometimes had associations with ritual foot races and with storm control, particularly the damaging spring wind storms.

Of other societies with sporadic occurrence, only the women's societies may be mentioned here. These societies admit men to membership, usually, just as men's societies sometimes admit women, so that often the only real way of distinguishing the societies is to find whether it is regarded by the natives as a man's or a woman's society. Their ceremonies are usually associated with the production of abundant crops. (White, 1928, 1932, 1932a; Parsons, 1920, 1920a, 1920c, 1923d, 1925a, 1929b, 1932; Goldfrank, 1923; M. C. Stevenson, 1884; Beals and Parsons, MS, Pueblo and Mayo-Yaqui Clowns.)

magic, medicines, etc. Some non-members think novices are subjected to physical torture and possibly filthy rites. The final episode in the initiation is a public ritual in the ceremonial chamber of the society in which the new member shows off his powers. At this time he is presented with the corn ear fetish which makes him a full-fledged member of the society. Even in the public ceremony there may be mistreatment; at Santo Domingo the novice is beaten. At Acoma the fire society throws its initiate on a bed of live coals. The Sia snake society requires initiates to handle live snakes.

During the summer the medicine societies exercise rain functions, going into a "retreat", that is, retiring to their chambers for four days during which they perform rituals to produce rain. These ceremonies are highly esoteric and little known. Slat altars are usually employed in addition to the sand or meal paintings. Fetishes are laid out, suds of yucca root mixed in a cloud bowl, and sprinkled to the ritual directions and over the altar and the medicine men. There are prayers and songs for rain and sometimes prayer sticks are deposited. The societies retreat at regular intervals, one at a time, often performing several series during the season. Each retreat should be followed by a one-day dance of the kachina. Where the kachina are masked, they are usually led in by the medicine men.

At each solstice the medicine societies usually hold ceremonies which are supposed to reverse the course of the sun. Usually the masks, if any are owned by the society, are repainted and renovated at this time. Offerings are deposited for the sun.

Phallic Clown Groups: With one exception, Taos, the Rio Grand Pueblos all have two clown groups which in many cases have some association with the ceremonial moieties. They wear distinctive paint and headdresses but no masks, and the group more markedly clownish in behavior is usually associated with summer ceremonies, while the other is associated with winter ceremonies, although either may appear, if ordered to do so by the officials. Some of the groups indulge in contrary behavior, that is, they speak the opposite of what they actually mean. They are sometimes associated with war, participating in the scalp or war society performances, and are also associated with the rain and more particularly with the kachina dances. Usually one of the clown groups introduces the kachina dancers to the Pueblo. When the kachina dances begin, the clowns cease their clowning

Ceremonies

Calendar: The Pueblo calendar of ceremonies is a flexible arrangement. Certain ceremonies are annually recurrent at regular intervals and times. These are, in the main, the more important rituals and ceremonies. Others recur at fairly regular but longer intervals, some as much as five years apart. Finally, there are ceremonies and rituals which are fixed by circumstances. Of this latter class are to be considered the individual curing rites already described, certain types of war and scalp ceremonies, and drought ceremonies.

The backbone of the calendar is the solstice, winter and summer, among the Keres and also in the west. Among the Tewa, while the solstices are observed, the seasonal transfer of ceremonies from the winter ceremonial moiety to the summer, and vice versa, takes the place of the solstices in importance. The sequence of ceremonies is arranged by the time at which the chiefs of various organizations take their turns in an esoteric retreat at which they perform their ceremonies or else cooperate with a dance or other group to give a public dance or other ritualistic performance.

The fairly regular series begins with the winter solstice (or winter transfer), continues with snow making and wind control ceremonies, pre-spring ground cleansing, ritual growth in prophecy of the coming season, initiations, foot races or ball games for rain or fertility, summer solstice (or summer transfer), summer rain retreats and pilgrimages to springs, lakes, or mountain tops, harvest feasting and dancing, autumn hunt ceremonies or war society initiation. In the Rio Grande region the Catholic saint's calendar has been included with Christmas, King's Day (January 6), Easter, All Soul's Day, and observances for the patron saint of each town. On these occasions dances of a non-esoteric nature may be observed. It is this part of the calendar alone which may be viewed in the east by the general public.

A good example is the Tewa calendar for the Pueblo of San Juan:

Early November, seasonal transfer, summer to winter.

December, about a month after the transfer, "winter cloud people come", a kachina dance.

December, sporadic, Winter People (ceremonial moiety) holds adoption ceremony.

December 24, matachina dance. Parade of the Saint. Outdoor fires, night visiting by the turtle dancers.

December 25, Turtle Dance; house visiting by one set each of Turtle and Navaho dancers.

December 26, Okusha. House visiting by two hoop or bow dancers, one Ute dancer with a choir of three.

New Year, little boys visit houses, given presents of bread. Installation of civil officers in house of outgoing governor.

January 6. Little boys visit houses again for presents; Buffalo dance; male dancers visit house of governor and two lieutenants for presents of bread.

January 7, winter solstice ceremony.

January 19, Hopi buffalo dance.

January-February. Basket dance, with or without kachina the night preceding. Bear kachina exorcism outside or "Three Times Dance" performed.

February, irrigation ditch ritually opened.

February-March. Ti'i Share Dance, dance by women's society.

March 2 or 3, seasonal transfer ceremony. Ceremonial skinny.

Before planting, sporadic. Summer people's adoption ceremony; two day retreat by summer men, followed by coming of "Summer Cloud People" (kachina).

Wheat planting, rain dance.

Corn planting, rain dance.

After planting, rain pilgrimage to Mt. Tsikomo.

Spring (in case of general sickness), medicine society night ceremony with society kachinas.

Easter. Buffalo or Deer dance and Captive dance.

Spring (sporadic), Eagle dance or ceremonial.

May (1927), initiation into woman's war group begun.

June 13, San Antonio day, dance.

June 24, San Juan day, relay race or "French" war dance.

August, rain retreats of societies.

September (1927), Kossa (clown society) initiation, outside dance.

September-November. Harvest dance.

October (sporadic), kachina initiation.

November 2, All Souls; fiscal takes baskets of corn collected to priest; candles in homes, etc. (Parsons, 1923d, 1924, 1925a, 1929b, 1932; Goldfrank, 1927, p. 72; White, 1932, p. 67, 1932a, p. 50.)

WESTERN PUEBLOS

The Pueblos of the west consist of Zuni and the several Hopi villages. They differ from those of the east in several important respects. In the first place they have had far fewer contacts with whites, and, perhaps as a corollary to this, they are far less secretive. Particularly is this true of the masked dances. The material basis of life is also somewhat different inasmuch as the region is more arid and less well supplied with streams. The social structure is radically different and considerably affects the religious and ceremonial organization. There are several important differences between Zuni and the Hopi villages but viewed in the "gross" they are rather similar as contrasted with the Rio Grande Pueblos.

Economic Basis of Life

Agriculture: Western agriculture is carried on with considerable more ingenuity in the face of difficult circumstances than is the case in the east. The Zuni have their river and, latterly, additional irrigation facilities through the building of a government storage dam. The Hopi have none of these. They live in a region with an average rainfall of less than 12 inches, with little snow in winter and without much spring rain. Spring is marked by violent windstorms. Late July and August are marked by severe local thunder showers, rarely covering enough area, however, to cause the run-off to flow through the main washes as far as the Little Colorado. At no time is there any appreciable amount of dew.

The Hopi and Zuni, if possible, select lands along a wash subject to overflow during the winter rains. The Zuni in particular make use of lands at the mouths of washes emerging from mesas or hills. Temporary diversion dams are usually built across the washes, often several in number, with the object of spreading the waters. The Zuni marks out the boundaries of his plot, clears and burns the brush, and sets up stone markers at the corners. The field, after the dams are built, is then bordered or dyked in accordance with the natural contours, often to a height of several feet, in order to conserve all the possible run-off either from the arroyo or local rains. The banks distribute the water over various parts of the field and also cause a considerable dropping of sediment. The Zuni farmer likewise often makes fences of sage brush to accumulate wind-blown

sand on various parts of the land. This sand is also spread over the ground by the irrigating water.

The lands selected by both peoples usually are sandy; preferably with a reasonably close sub-stratum of clay to reduce percolation, while the sand forms a mulch preventing rapid evaporation. The Hopi, where irrigation is impossible; select lands with heavy clay soil covered by several inches of very sandy soil. Hopi lands in particular tend to be diversified. A large number are on the flat bottoms along the main washes; others are on the slopes close to the mesa bases where there is considerable underground percolation. In very dry years, those fields closest to the mesa will not produce; on the other hand, should there be a very wet year, the fields along the arroyos will be washed out and perhaps lost. In the same way, as the big washes drain rather different areas, a man will try to plant on more than one large wash because he doubles the chances of getting enough water for at least a partial crop and halves the chances of having his entire field washed away.

Both Hopi and Zuni lands belong theoretically first of all to the clan, although in actuality they descend primarily from mother to daughter. Hopi clan lands have recognized boundaries, while individual holdings within the clan lands often have no fixed boundaries because the constantly shifting soil and moisture conditions due to flooding, etc., make it necessary to be continuously shifting fields. Both Hopi and Zuni allow for irregularities in inheritance also. There are many plots of ground developed by men outside the clan boundaries, particularly since improved transportation methods and safety permit traveling to greater distances. There is a tendency for these plots to be passed from father to son. Also, in case a man's children are short of land, the Hopi father's clan will permit the children to continue use of the land, although eventually it will revert to the clan. The Zuni, however, apparently permit permanent alienation from the clan if a man so desires. Normal inheritance of land cultivated by a man would be to his brother's or to his sister's sons. Yet if he so desires, he may bequeath them to his own children or divide them. A man wishing to do this will speak of the matter to the medicine society of which he is a member. The affair will be kept secret by all concerned until the man's death. Then if there is any dispute, the heads of the medicine society will appear and reveal the dead man's wishes.

When a Zuni is preparing a new field, once the brush is cleared and the diversion dams built, he consecrates the field with prayer sticks and ritual cane cigarettes given him by a corn priest, smoking to the directions, praying, and planting the offerings in the bed of the arroyo below the final dam.

Planting preparations really begin with the previous year's harvest. The land is brushed and put into shape immediately after the harvest, and furrows and banks are arranged to distribute any chance winter rainfall. The Zuni place the best corn seed of the harvest, after a ritual treatment of great elaborateness, in a special fawn skin bag. Actual planting takes place after the first spring rain, usually in mid-May. The Zuni plant the ritually prepared seeds of different colored corn in the middle of the field, each color in the direction with which it is symbolically associated. They use an ancestral and treasured digging stick. The success of this ritual planting is supposed to determine the success of the entire crop.

A hole is gouged in the soil about 8 inches deep and several inches wide in which is planted 15 to 20 kernels of corn. The hole is then filled and the soil firmed. If the soil is very sandy and not subject to overflow irrigation, the corn may be planted as much as 15 inches deep. The holes are usually marked with a stone. The large number of kernels in each "hill" are required because of the high mortality due to cutworms, rodents, crows, and also the small percentage of stalks which are sufficiently vigorous to reach the surface from the depths at which they are planted. If the holes become completely covered in a sandstorm, the sand must be removed from each laboriously with the hands. Scarecrows and traps and snares are placed for rodents and crows.

The Zuni usually plant a few inches to leeward of the clump of stalks and roots remaining from last year's crop, and only if this does not offer adequate protection to the young shoots do they resort to windbreaks. The Hopi make regular windbreaks about thirty feet apart by sticking brush in the sand, and frequently make smaller windbreaks by each plant. The young corn plants are often protected by placing over them tin cans from which both ends have been removed.

During the growing season, the weeds are cut, each hill is meticulously inspected for cutworms periodically, and the Zuni

heap earth about the bases of the corn plants when they are well developed. They formerly used an elk-scapula hoe for this.

As the crop nears maturity, the field is inspected, and all those ears which it is seen will not mature before the probable arrival of frost are plucked and sealed in a pit within which a fire has burned previously. After a period of steaming, the husks are stripped off and the corn dried on the cob. During this period and the harvest there is much feasting in the fields, where nearly everyone spends two to four weeks in temporary camps and shelters.

The harvest takes place usually after the first frost. The Zuni husk part of the ears in the field but the Hopi take practically all to the village where it is piled before the houses and husked. The corn is sorted as to color and quality and stored in the inner windowless rooms of the houses. It is then the property of the women, although before this time men are considered to own the crop and do most of the work involved. The stalks are then cut for fodder and are tied in bundles. Formerly they would not have been cut.

The corn must be carefully watched. If weevils are discovered in the corn, a woman summons her neighbors and each ear is removed, examined, and if weevils are discovered on the ear, it is wiped and rubbed thoroughly.

The Hopi usually plant beans in plots separate from the corn. Like all other cultivated plants, they are sown rather widely spaced. Clark reports more than twenty native varieties which are planted and stored separately, but this seems difficult to believe. Forde collected native terms for only six beans, two of which came in two varieties, and one of which a spotted bean, is called pinto, which is merely Spanish for spotted. This derivation for the term, of which Forde was apparently unaware, indicates that there were no more than five native terms for beans, indicating Clark's other varieties were not native. One small brown bean is gathered in the pod, dried, and stored for winter use.

There are many varieties of melon and squash grown. A native, white-fleshed variety grown by the Hopi will retain its flavor stored in the house until January or February. The usual Pueblo practice of cutting squash in spirals or rings and drying them in the sun is common.

The Hopi formerly grew native cotton despite the unfavorable environment (short season). Hopi cotton by Department of Agriculture test is the most rapidly maturing variety known; it has produced mature bolls 34 days after planting.

Fruit trees, particularly peaches, are much raised by Zuni and Hopi. The Hopi grow them on the sand and talus slopes below the mesa near springs and seepages which provide sub-irrigation. They are kept carefully clear of weeds. The fruit is never eaten fresh but is preserved by drying and often stored in sealed adobe chambers made by constructing a second wall 12-15 inches from the house wall, placing the fruit between the walls and sealing the top with adobe. So placed, fruit will last two or three seasons.

Small garden plots are used to grow onions, peppers, and whatever other garden plants may be raised. The Hopi make terraces near the larger springs which they irrigate through ditches. The Zuni usually make small plots near the town which they fence. The vegetables are grown in hills, one to six in a small basin about 15 x 24 inches with 4 inch borders. Water is brought in jars to irrigate these. Gardens both at Hopi and Zuni are largely women's work.

Cushing, 1920; Forde, 1931a; Clark, 1928; M. C. Stevenson, 1904, 1915; Lewton.

Wild Plants: The Zuni make use of many wild plants including tumbleweed seeds, wormwood seeds, pods or tips of various milkweeds and the milk vetch, salt bush seeds, chenopodium seeds, pinon, coreopsis, pig weed seeds, ground cherry, wild currant (leaves and berries), native potato, nightshade berries, cockle-burr seeds, yucca fruit, thistles, cactus fruits, puff balls, and the Rocky Mountain bee plant. There are others, of course, but these are the most important.

M. C. Stevenson, 1915; for the Hopi see also Robbins, Harrington, Friere-Marreco; Hough, 1897, 1898; Fewkes, 1896; Denver Art Museum Leaflet 8.

Houses: House building is theoretically the work of the men in the main, but women do certain parts of it and often all except the lifting of the heaviest beams and stones. When the house-builder has picked a suitable site, the corners are marked. Then the beams are cut and the roughly dressed stone assembled. Helpers, usually of the builder's clan, are not paid, but must be fed.

When the materials are all collected, the builder goes to the village who prepares for him four small eagle feathers with a short cotton string, which he breathes on and sprinkles with meal before giving it to the builder. These the builder deposits under stones at the four corners of the house and places food on each side of the point where the door is to be, while food particles mixed with native tobacco are scattered along the line of the walls. The walls are built up of roughly shaped stone set in a little adobe mortar. They are 7 to 8 feet high and from 15 to 22 inches thick. Rooms are always rectangular. When the walls are completed, the rafters are laid across. These are usually of pine or cottonwood but pinon, juniper, and willow are all used at times. The bark is removed. The rafters are placed about two feet apart and across them at right angles are laid small poles about one foot apart. Upon these poles are laid reeds or small willows side by side and upon this layer of grass, small twigs, and weeds. A layer of mud is then spread, covered with earth, and firmly trodden down. A final plaster of mud is then spread as a floor. The roofing is always women's work. Plaster is now applied to the outer walls, although the Hopi are apt to be negligent in this respect.

The builder now prepares four feathers similar to those first fixed by the chief and ties them to a short piece of willow which he inserts over one of the central roof beams. These feathers are renewed every year in December. Fragments of food are placed among the rafters with prayers for long life for the inmates of the house.

In preparing the roof a hole is left at one corner beneath which the woman builds her fireplace and chimney. The fireplace is a cavity about one foot square in the corner. Over this is built a hood with the lower rim about three feet from the floor and then a chimney. The final finish of the roof is to carry the wall above the roof level a few inches in a sort of coping, often capped with rock slabs to prevent percolation of water. Various devices are employed to drain the water from the roof without damage to the plastered walls or the adobe mortar of the walls.

The ground floor usually has no entrance except through the roof (this condition is rapidly changing at Zuni). As the house is added to and has additional stories, upper stories are used as the living quarters, the lower rooms for storage. Each ground floor unit or rectangular room which is added is built with the same ceremonies described above, and is considered a new "house", but in adding upper stories there is no ceremonial. The roof is used as a place of temporary storage, longing place and a communal highway. There are usually one or more fireplaces in the upper stories and among the Hopi particularly there is an outside fireplace on the terrace or roof. The Hopi also have special small rooms which are used in the making of wafer bread.

The typical interior is fitted with stone floors, even in the upper stories where the roof of the room below forms the floor of the upper room. Thin slabs of stone are laid on the roof in this case to furnish a hard-surfaced floor. The fireplace is in one corner, generally away from the door; in another corner are the water jars; and in still another the mealing bins with their three or four metates, always arranged so the women kneel behind them facing the room. There are usually wall benches of masonry and adobe and storage bins. A pole is usually suspended from the rafters somewhere for storage of clothing and blankets.

The western kivas, or ceremonial structures, are all rectangular in ground plan. The dimensions are about $12\frac{1}{2}$ by 25 feet, the ceiling being $5\frac{1}{2}$ to 8 feet above the floor, slightly higher in the middle and with a raised entrance hatchway and smoke-hole about 5 x 7 feet. Zuni entrances are wood framed and more elongated, with one section primarily for the smoke-hole, another for the entrance. Hopi kiva hatchways are sometimes built up with a cribbing of logs several feet above the roof level. There are matting or other covers to the entrance.

Directly below the entrance hatchway is a fire pit, a shallow depression about one foot square. The ordinary Hopi fuel is greasewood, bundles of which are hung within the kiva hatchway to dry. One end of the Kiva floor is raised about 12 inches. This section is where visitors sit when admitted to the kiva and on the edge of it rests the ladder to the entrance hatchway. Across the end of the kiva is a ledge of masonry two feet high and about one foot wide which serves as a shelf for the display of fetishes. A small niche-like aperture in the middle of the ledge is the "kachina" house in which masks are placed during the ceremonies when they are not in use. In the main floor is a cavity about one foot deep and eight or ten inches on a side, which is covered with a short thick slab of cottonwood or stone, the upper surface level with the floor and with a hole in the center filled with a plug. This is the sipapu or entrance to the underworld by which spirits enter the kiva.

Various other features occur unrelated to the ceremonial purposes. Along the walls logs are set in the floor with holes to which looms may be attached when the men are weaving in the kiva. Frequently there are benches of masonry along the walls for seats. The interior is usually plastered, the work being done by women. Ladders are of notched log or are made in two pieces with cross rungs passing through holes bored in the side pieces. Oraibi used ladders with the crosspieces lashed in notches.

Hopi kivas each have a chief who is often regarded as the owner of the kiva. Kiva chieftanship is inherited in the female line. One kiva is always called, in addition to its regular name, the chief kiva. It is the resort of the town chief and the town crier or crier chief. Zuni kivas are owned by the various divisions of the kachina society.

V Mindeleff, 1891; M. C. Stevenson, 1904, 349 et. seq.; Forde, 1931a.

Dress and Ornament: This does not differ materially from the native dress described for the Rio Grande although native dress is much more commonly worn today.

Handicrafts

The western Pueblos are considerably richer in handicrafts than the eastern. See particularly The Hopi Craftsman. Museum of Northern Arizona.

Pottery: The description of pottery making on the Rio Grande will serve for the western pottery making, except that the Hopi sometimes use native coal in firing. This is possibly a modern usage.

Earliest pottery to be ascribed to the Hopi is a decadent black on white or black on orange, but this correlation with archaeology is not necessarily correct. About 1300 appeared Jeditto yellow, black designs on a clear yellow ground, first geometric, later developing more realistic forms. About 1425 it reached its height with black and red, later with white, added to the yellow ground. The best of this was called Sikyatki and marks the apex of Pueblo pottery art. During the 16th century the ware became decadent with heavy lines, dull colors, poor execution, geometric designs, red and black on yellow for colors. About 1800 the Tewa of Hano introduced strong Zuni influence; even the colors became similar, with a crackled surface.

In 1897 J. Walter Fewkes excavated the ruin of Sikyatki, and the wife of one of the workmen from Hano, Nampeyo, undertook to reproduce the designs on the old Sikyatki bowls and pots as well as the shapes and paste. Her extraordinary ability and perseverance led to a modern revolution of Hopi pottery. Despite this great improvement, the making of decorated ware is declining and only a few Hopi Pueblos make it in quantity.

The best Hopi pottery has a mottled background shading from a light cream through yellow to orange, depending on the amount of heat. That with a yellow slip burns fairly even dark reddish-orange, while that with a white slip remains white. The decorations are in black or dark brown, a dark reddish-orange, and white. The ware is rather thick. Most of the designs are conventionalized bird forms. Most characteristic shapes are a shallow bowl with incurving rim, and a jar with flattened shoulder and small mouth. Also are made bowls with outcurving rims, spherical jars, canteens with one flat side, dippers with long tubular or short loop handles, ceremonial bowls and dippers with cloud pattern rims, small flat tile, very small paint pots, rattles, and various escentric forms, some of which, such as candlesticks and ash trays, are clearly white influenced. Recently tall slender jars of attractive shape have been made.

The Zuni use a clear white slip which darkens with age; it appears to be thick and heavy. The painted designs are in dark-brown, black and a medium red. The base is dark brown or gray, almost black; this color shows clear through the paste when pots are broken. The ware is thickish, the shapes poorly modeled, and the rim left by removal of the base at the time of moulding is frequently not smoothed out. Water jars and bowls of various sizes are the most common shapes, the latter decorated both inside and out. The design is characterized as a field marked off into sections in which various designs are painted. Design elements include deer, crudely drawn with a red line from mouth to heart and a white spot on the rump; squatty little birds with long tails; large flower-like discs or rosettes; and large hooks with triangular points on the outside of curving lines. The neck is not included in the main decorative field except in some very modern pottery, but has a separate treatment. Other shapes and designs include dippers and bowls with terraced figures cut on the rims and with frogs, tadpoles, dragonflies, butterflies, heavenly phenomena, and corn. These are for ceremonial use. Formerly a good deal of black on red ware was made and lately some tan slips have been used.

J. Stevenson, 1883, 1883a, 1884; Bunzel, 1929; Denver Art Museum Leaflets 47, 53, 54; Hough, 1917, 1918; Dorsey, 1899; Hodge, 1904.

Weaving: See for Zuni, Spier, 1924a.

The Hopi weave both cotton and wool, the latter of course introduced by the Spanish. Weavers are now all men with few exceptions, although early documents speak of women weavers. All men above middle age can weave.

The loom is vertical, similar in most respects to that of the Navaho. The upper beam is fastened to the beam ends or pegs set in the wall of the houses or kivas. The lower beam is tied to the floor with ropes run through sockets or pegs driven in the floor. The warp is strung in a series of long figure eights between two rods fastened to pegs driven in the floor. These rods are replaced with cords which are then bound to the rods, the rods in turn being fastened to the beams. Plain, checked and diapered patterns are produced by a complicated system of heddles or heald rods. One edge is first woven, then the loom is reversed and the opposite edge woven. Then the center is filled in. The yarn is passed through the warp and beaten into place with wooden batten sticks, combs, needles, etc.

For belt weaving (also sashes, garters, headbands and other narrow fabrics which are produced in quantities) a complicated heddle series is used. The warp is attached at the top to a wooden roller instead of a rod and the other end is held by a band passing behind the back of the weaver. Belt warps are more complicated in their arrangement also.

Cotton is prepared for spinning by beating with a bundle of pliant rods which loosens the seeds. Loose rolls are formed and are spun into yarn by hand with a slender wooden spindle about 12 to 20 inches with a whorl or fly-wheel of wood, horn, or earthenware. Articles of cotton include blankets, sometimes embroidered, shawls, men's dance kilts and sashes, embroidered, and ceremonial and wedding sashes. Woolen articles include the dark brown or blue woman's dress, blankets, and, formerly, men's shirts, narrow belts, and garters. Wool weaving resembles Navaho work but is better done.

Native dyes are still used to some extent. They include red, green, blue, yellow, black, brown, and white.

Denver Art Museum Leaflet, 18.

Basketry: The Hopi are the only Pueblo Indians to make basketry on any scale. Coiled work is made by three villages on the second mesa only. The materials are coils of strips of yucca leaf wrapped around bunches of a coarse grass, Hilaria jamesii. A slender coil is begun by wrapping a long strip of yucca leaf about a small bunch

of a coarse grass, *Hilaria jamesii*. A slender coil is begun by wrapping a long strip of yucca leaf about a small bunch of shredded bits of the same material. This coil is rolled on itself and sewn with yucca leaf to start the coil, grass being added. In making a flat plaque, the inside faces the worker, but in deeper shapes, the outside faces the worker. Sewing is done by making a hole near the top of the already wrapped coil and passing a strip of yucca through this hole and around the foundation material projecting from the coil so far finished, and back to the next hole.

Shapes include perfectly flat plaques, food trays, deep waste baskets, small globular baskets with covers, and, to order for Americans, coiled basket jars of very large size. Colors are less bright and varied than in the wicker technique, and include black, yellow, red-brown, orange, and several shades of green. The green is natural, using different parts of the yucca plant, but the other dyes are prepared by boiling the yucca strips in the same dyes used in wicker (see below). The designs are less complicated but similar to those produced in wicker (cf. U. S. National Museum Proceedings, 54, pp. 268-270).

Fine coiled basketry is not made by the Hopi although they secure a good deal by trade from the Apache, Pima, and Paiute.

Wicker basketry is made only on the third mesa. The materials are a number of warp-like ribs radiating from a central hub and a weft consisting of lighter material woven in and out of the ribs in concentric circles. The ribs are made of sumac or willow twigs, the weft from three different varieties of rabbit brush. As the weaving progresses, additional radiating twigs or ribs are inserted. When the desired circumference has been reached, the projecting ends of the ribs are bent sideways and tied together with strips of yucca leaf.

Flat or slightly curved plaques, and waste baskets with straight or flaring sides, are made. Colors are black from sunflower seeds, navy beans, soot, coal or an ink of resin and iron alum; blue from roots or whole plant of se-e-ta, iron ochre, alder bark, sumac berries, cockscomb flowers, or thelesperma; yellow from rabbit-brush flowers, sunflowers, ochre; orange-yellow from saffron; green from se-e-ta, stems, navy bean, copper carbonate; brown from se-e-ta blossoms, navy beans, iron ochre; white from kaolin or limestone; pink, cerise, purple, carmine, and violet from cockscomb flowers. There are also many combinations and shades. In dyeing, the colors may be applied before or after weaving. For dyeing after the weaving only the mineral colors are used, ground to powder and mixed with saliva and

the juice of chewed melon seed. These are painted on with a brush of rabbit fur. If the dyes are applied before weaving, the peeled and smoothed stems are boiled in the dye and placed when still wet over a rack above a fire. A tent is made of a blanket and the dyes set by the smoke from wool thrown on the fire.

Designs are based on life forms but in many cases the conventionalization is so complete that they are practically geometric forms. Life forms represented include birds, parts of birds, butterflies, Kachinas, clouds, rainbows, stars, sun, whirlwinds, antelope, snakes, and other forms also occur in endless recombinations.

A little twilled basketry is made, usually crudely shaped bowls in checkerboard or diamond twill and used as work baskets. There are also square shapes, bottles, head rings, pottery rests, forehead bands, and belt weaving harness made in this technique. Matting was formerly made in quantities. There are now two types, one of straight rods held together by twined weaving and used to wrap the bride's costume; the other of yucca in checked or twilled weaving which serves as a hood over the fireplace when plastered with clay.

J. Stevenson, 1883, 1883a, 1884; G. A. Dorsey, 1899; Denver Art Museum Leaflet, 17.

Minor Manufacturers: These include stone axes, usually grooved and some double bitted; mauls, pestles, mortars, amulets, metates and manos, pottery polishing stones, stone knives, paint vessels, baking stones, sandstone arrow shaft polishers, and arrowpoints. Horn and bone articles include awls and horn arrow straighteners. Wooden articles include rabbit clubs, combs, tongs, bows and arrows. Gourd rattles are made; also there is much bead and silver working.

J. Stevenson, 1884; Hopi Craftsman.

Games:

Parsons, 1922a; Culin; M. C. Stevenson, 1903.

Personal Life

Pregnancy and Birth: There is considerable similarity in Zuni birth rites to those of the Rio Grande. Girls are more desired than boys. A map during labor changes the sex of the child. A bean is swallowed to speed delivery; exposure to cold delays delivery. If the placenta is retarded the woman is slapped on the back with a man's moccasin. These are all Rio Grande ideas also. Men are excluded from childbirth. A female assistant massages the mother's abdomen and frequently feels the top of the patient's head. If it is hot it is a sign delivery is at hand. The child is immediately bathed in warm cedar bark brew and then rubbed with ashes to prevent growth of body hair.

Confinement after birth is 8 days. The mother lies on a three inch bed of hot sand covered by a quilt or blanket. The baby is on a similar bed, its head to the west. It is important for the mother to lie on her stomach and keep drinking cedar brew. Intercourse is undesirable until the lochial discharge ceases. The mother's hot drinks are prepared by the baby's paternal grandmother, who also keeps the sand bed hot and a warm stone pressed against the mother's abdomen. On the eighth day, before sunrise, the paternal grandmother takes mother and child outside and presents the child to the sun, praying and sprinkling cornmeal. The baby is not put for the first time in the cradle board. There is usually a bit of turquoise inlay on the cradle board close to the heart. Should the infant die, the board is destroyed; to use it for another child would cause its death.

The child must not be left alone in the room or a ghost might steal it; if it must be left, the two-tipped corn ear is left with it. There are various magical causes for minor ailments; a rash may be due to the mother's testing the bake-oven heat with bran; disfigurement may be due to the father having taken part in a masked dance before the birth of the child. In the latter case, the father dances in his mask and sweat from his body is rubbed on the child.

Unlike the Rio Grande, no name is given the child until it can creep. If a woman has had bad luck with children, she may call in a rain priest to give the name, she may get prayer sticks from the rain priest to plant at a phallic shrine, or she may invite a woman who has successfully reared many children to be present at the birth. Various magical practises are used to promote the birth of the child, e. g., the tongue of a mocking bird is held for the child to lick to promote early speech. When first taken out at night, embers from the fire moistened with water are put over the heart so it will not be afraid. When it is first carried on the back it is whipped four times on the buttocks for the same purpose.

Parsons, 1919d, 1915, 1921a; M. G. Stevenson, 1904, 1923f; Owens, 1892; Kroeber, 1916b; Stevenson, 1887; Voth, 1905, 1905a.

Marriage: See Voth, 1900; M. C. Stevenson, 1904.

Death: See Parsons, 1916, 1917; M. C. Stevenson, 1904.

Sickness and Curing: See references under Religion and Ceremonials: M. C. Stevenson, 1904.

Social Organization

Maternal clans are the outstanding feature of western social organization. Children belong to the group of putative relatives of their mother. Residence is always with the wife who owns the house, so a man's real permanent roots are with his mother and sisters who live usually in his ancestral home. This is the more true because marriage at Zuni (and it is fairly true of Hopi) has been quite accurately described as a brittle monogamy in which frequent separations and remarriages are the rule and permanent marriages, although fairly common, are the exception. Recent studies have shown, however, that the really important functioning element is the maternal lineage within the clan, i. e., the actual blood relatives as figured through the mother. If a ceremony, privilege, etc., "belongs" to a clan, actual analysis shows that it descends normally from a man to his sister's child within the lineage, and only exceptionally, or failing heirs, does it descend to other members of the clan not actually blood relatives. Lands belong usually to the men but descend from a man to his sister's sons normally.

Kroeber, 1917, Lowie, 1929, 1929a; Forde, 1931a; Fewkes, 1894, 1894a, 1900c, Cosmos Mindeleff, 1900.

Political Organization

Zuni has a similar political organization to that found on the Rio Grande -- in other words, the Spanish introduced offices of governor, etc. The Hopi have no true political organization. Town chiefs and clan chiefs function to settle the few secular problems but in effect the important organization is a theocracy which is primarily devoted to religious problems and only incidentally to political problems.

Parsons, 1917d; M. C. Stevenson, 1904.

Religion and Ceremonial Organization

It has been impossible to disentangle the extraordinarily complex situation in this field in the time available. The following list of references will cover most points. Salient features to be indicated are the development of an important true priesthood at Zuni by the setting apart of the heads of the major religious organizations and societies as individuals with important functions and ceremonies over and beyond the functions and ceremonies of the societies; the dominance of the kachina organization at Zuni; the small development of curing organizations at Hopi, with the development of societies as rain making organizations rather than curing bodies; and the intimate integration of the clans into the ceremonial scheme.

See Curtis; Fewkes, 1900b, 1906a, 1891, 1895, 1898c, 1894b, 1897, 1897a, 1897b, 1898b, 1899, 1899a, 1899b, 1900, 1901, 1901a, 1902, 1903, 1923a; Solberg, 1906; Fewkes and Owens; Fewkes and Stephen; Parsons, 1924a, 1917c, 1916b, 1916c, 1916d, 1916e, 1916f, 1919, 1922b, 1923b; Habberlin, 1916; Bourke, 1884; Cushing, 1882a, 1883; Hodge, 1896a, 1890, 1897a, 1898a, 1917a; Voth, 1912a, 1901, 1902, 1903, 1903a, 1912; Dorsey and Voth, 1901, 1902; M. C. Stevenson, 1887, 1904, 1898; Parsons, 1926, 1934, 1933, 1925, 1924, 1923a; Bunzel, 1932a, 1932b, 1932c, 1932d, M. C. Stevenson, 1904.

RANCHERIA PEOPLES

Rancheria Peoples: The Pima and Papago have been rather thoroughly described in my report on the material culture of the Pima, Papago, and Western Apache. The Opata are little known and most of the available material is in the Documentos para la Historia de Mexico cited in the bibliography of the report on Tumacacori. For other rancheria peoples there is in general only one source of importance each, as follows (first citation is the important one):

Maricopa: Spier, 1933

Cocopa: Gifford, 1933

Yuma: Forde, 1931; Gifford, 1926; J. P. Harrington, 1908; Hertzog, 1928

Mohave: Kroeber, 1902, 1925; Allen, 1891; Bourke, 1889.

Walapai: Kroeber and others. MS now in press. American Anthropological Society, Memoir Series.

Havasupai: Spier, 1928.

MARGINAL AGRICULTURISTS

There are very few adequate studies available of this group. The western Apache material is summarized in my report on the Material Culture of the Pima, Papago, and Western Apache.

For the Yavapai, see Gifford, 1932.

For the Paiute, there is practically nothing available. See Lowie, 1924. Also, Dr. Isabel Kelly, Department of Anthropology, University of California, has just finished an intensive study which is not yet even in MS stage.

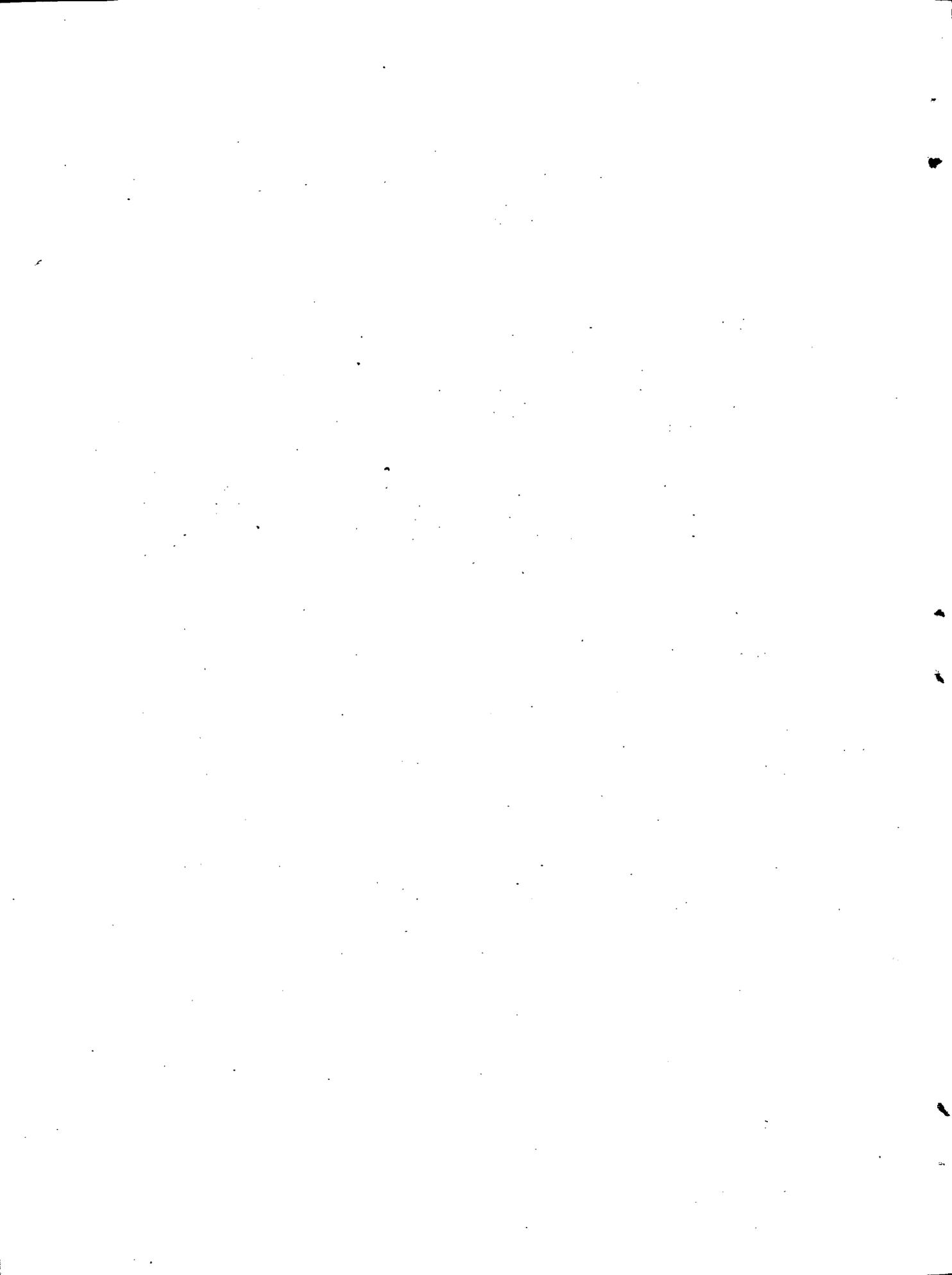
For the Navaho, see Amsden, Franciscan Fathers; Goddard, 1910; Guernsey, 1920; James, 1914; Letherman, 1856; Lipps, 1909; Matthews, 1883, 1884, 1887, 1888, 1889, 1890, 1892, 1894, 1894a, 1896, 1900, 1902, 1904, 1904a; C. Mindelleff, 1898; Morgan, 1931; Parsons, 1919c; Reichard, 1928; Shufeldt, 1888, 1891, 1891a, 1892; Stephen, 1893, 1930; J. Stevenson, 1891; Tozzer, 1905, 1908.

For material culture, W. W. Hill, Graduate School, Yale University, New Haven, is collecting data and may have some in MS form but is spending 1934-35 in the field and will have much more.

NOMADS

For the eastern Apache, Dr. E. E. Opler (last address Tularosa, New Mexico) has been collecting much new material which has not yet been published. Otherwise there are only scattered references. The Comanche are practically unknown, although there have been recent studies as yet unpublished (see Richardson, 1929; Mooney, 1898). The Ute data, inadequate as they are, have been summarized in my report on the Ethnology of Rocky Mountain National Park. (See also Lowie, 1924.) The Kiowa and Kiowa Apache data are scanty but are contained in Mooney, 1896, 1898; Parsons, 1929; Spier, 1921.

See also for Apache: Bourke, 1892, 1892a; Cremony.



Arlegui, Joseph de

1737. *Chronica de la Provincia de N. S. P. S. Francisco de Zacatecas.* Mexico.

Audouard, Olympe

1869. *A travers l'Amerique: Le Far West.* Paris.

Bancroft, Hubert Howe

Native Races of the Pacific states. San Francisco, various dates.

Bandelier, Adolph F.

1881. *Historical Introduction to Studies among the Sedentary Indians of New Mexico.* Arch. Inst. of America Papers, American Series, 1. Cambridge.

1884. *Reports on Investigations in New Mexico, 1883-4.* Arch. Inst. of Amer. Ann. Report, 5. Cambridge.

1890. *Hemenway-Southwest Archaeological Expedition. Contributions to the History of the Southwestern Portion of the United States.* Cambridge. Wilson.

1890a. *Contributions to the History of the Southwestern Portion of the United States.* Arch. Inst. of Amer. Papers, Am. Series 5, Cambridge.

1890b. *Historical Archives of the Hemenway Southwestern Archaeological Expedition.* 7th International Congress of Americanists, Berlin.

1890c. *The Delight Makers.* New York.

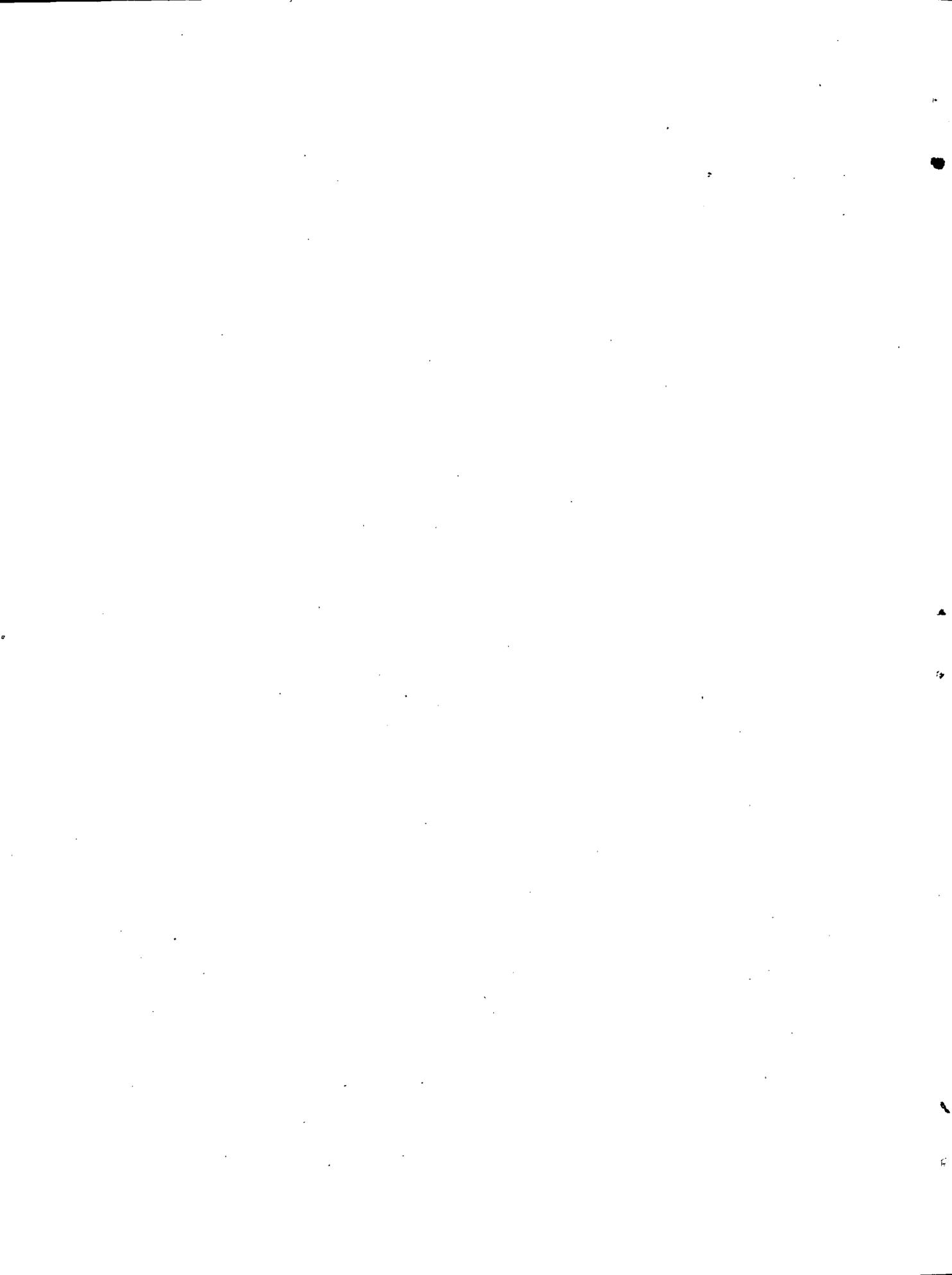
1890-2. *Final report of Investigations among the Indians of the Southwestern United States.* 2 vols., Cambridge.

1892. *Documentary History of the Zuni Tribe.* Journal American Ethnological Assn., 3.

1892a. "Montezuma" of the Pueblo Indians. *American Anthropologist*, O. S., 5: 319.

1893. *The Gilded Man.* Appleton, New York, 302 pp.

1910. *Documentary History of the Rio Grande Pueblos of New Mexico.* Arch. Inst. of America, Papers of the School of American Archaeologists, 13. Santa Fe.



1916. The Delight Makers. Dodd Mead, New York, 430 pp.
- Bartlett, John Russell
1856. Personal Narrative, etc. New York, 2 vols.
- Bartlett, John Russell
1909. The Language of the Piro. American Anthropologist, 11: 426-433.
- Barriero, Antonio
1832. Ojeada sobre Nuevo-Mexico. Pueblo, Mexico,
- Baskett, James Newton
1906-07. A Study of the Route of Cabeza de Vaca. Texas Historical Association Quarterly 11:246-308.
- Beale, E. F.
1858. Wagon Road from Fort Defiance to the Colorado River. H. R. Ex. Doc. 124, 35th Congress, 1st Session.
- Beals, Ralph L.
1932. The Comparative Ethnology of Northern Mexico before 1750. University of California Publications, Ibero-Americana, 2.
1932. Unilateral organizations in Mexico. American Anthropologist, 34: 467-475.
- Bell, A. W.
1869. On the native races of New Mexico. Journal of the Ethnographic Society of London, N. S., vol. 1, sess. 1868-69. London,
- Benedict, Ruth
1930. Eight Stories from Acma. Journal of American Folk-Lore 43: 59-87.
1931. Tales of the Cochiti Indians. Bureau of American Ethnology, Bulletin 98.
1932. Configuration of Culture in North America. American Anthropologist, 34: 1-27.
- Benevides, Alonso de
1630. The Memorial of Fray Alonso de Venevides. Chicago, privately printed, 1916. Trans. and text in facsimile, 309 pp.

- Bent,
1846. In California and New Mexico, Message and Correspondence. Ex. Doc. 17, 31st Congress, 1st Session, 1850.
- Berard, Father O. F. M.
1917. Note on Navaho Migrations and Pueblo Names. *American Anthropologist*, 19:151.
- Berlandier, Luis, and Rafael Thovel
1850. *Diario de viage de la Comission de Limites*. Mexico.
- Blackmore, William
1869. On the North American Indians. *Journal of Ethnographical Society of London, N. S.*, 1st session, 1868-69.
- Boas, Franz
1897. Northern Elements in the Mythology of the Navaho. *American Anthropologist*, old series, 10: 371-376.
1928. Keresan texts. *American Ethnological Society*, 8:1.
- Bollaert, Wm.
1850. Observations on the Indian Tribes in Texas. *Journal of Ethnographic Society of London*, vol. 2.
- Bolton, Herbert E.
1916. *Spanish Exploration in the Southwest*. New York, Scribner's Sons, 487 pp.
1919. *Kinc's Historical Memoir of Pimeria Alta*. Cleveland, 2 vols.
- Bonnerjea, Biren
1933. General Index of Annual Reports of the Bureau of American Ethnology. *Bureau of American Ethnology*, 48:25-1120.
- Bourke, J. G.
1884. *The Snake Dance of the Moquis of Arizona*. New York.
1889. Notes on the Cosmogony and Theogeny of the Mojave Indians of the Rio Colorado, Arizona. *Journal of American Folk-Lore*, 2:169-189.

1890. Vesper Hours of the Stone Age. American Anthropologist, old series, 3:55-63.
- 1890a. (Zuni clans). Journal of American Folk-Lore, 3:
1891. Remarks. American Anthropologist, old series, 4:71-74.
- Bourke, J. W.
1894. Popular Medicine, Customs, and Superstitions of the Rio Grande. Journal of American Folk-Lore, 7:105-146.
- Box, Michael J.
1869. Adventures and Explorations in New and Old Mexico. New York.
- Brackenridge, H. M.
1857. Early Discoveries by the Spanish in New Mexico. Pittsburgh, Miner and Co.
- Bradbury, Jno.
1817. Travels in the Interior of America in the Years 1809, 1810, 1811. Liverpool and London.
- Bunzel, Ruth
1928. The Emergence. Journal of American Folk-Lore, 41: 289-290.
1928. Notes on the Kachina Cult in San Felipe. Journal of American Folk-Lore, 41:290-292.
1928. Further Notes on San Felipe. Journal of American Folk-Lore, 41, 592.
1929. The Pueblo Potter. Columbia University, Contributions to Anthropology, 8.
- Buschmann, Johann Carl, Ed.
1860. Systematische Worttafel des athapaskischen Sprachstamms, Dritte Abtheilung des Apaches. Abhandlungen der Koniglichen Akademie der Wissenschaften zu Berlin, 1854. Berlin.

- Carrasco
 1698. Espediente concerning Carrascos Expedition to the Gila River with Kino in 1698. A. G. I. 67-3-28. Typescript in Bancroft Library, U. of Calif., 33 pp.
- Chamuscado, Francisco Sanchez
 Relacion y concudio de el viaje y subseso que Francisco Sanchez Chamuscado con ocho soldados sus companeros hizo en el descubrimiento de Nuevo Mexico. Translation, New Mexico Historical Review, 2:239-268; 334-362.
- Chittenden, Newton H.
 1901. Among the Cocopahs. Land of Sunshine, 14:197.
- Clark, S. P.
 1928. Lessons from Southwestern Indian Agriculture. University of Arizona, Agricultural Experiment Station, Bull. 125. Tucson, Arizona.
- Clark, W. P.
 1885. The Indian Sign Language. Philadelphia.
- Coolidge, Mary Elizabeth
 1929. The Rain-makers. New York and Boston, Houghton Mifflin, 326 pp.
- Cope, Leona
 1919. Calendars of the Indians North of Mexico. University of California Publications in American Archaeology and Ethnology, 16:119-176.
- Corbusier, Wm. F.
 1886. The Apache-Yumas and Apache Mojaves. American Antiquarian, 8:276-284, 325-339.
- Coues, Elliott
 1900. On the Trail of a Spanish Pioneer: The Diary and Itinerary of Francisco Garces, 1775-1776. New York, 2 vols.
- Crossett, Lela
 New Mexico Pueblo Indians as Described by the Early Explorers. MS, M.A. thesis, University of California, Berkeley.

- Culin, Stewart
 1907. Games of the North American Indians. Bureau of American Ethnology, Report, 24:3-809.
- Curtis, Edward S.
 1908. North American Indians. Cambridge, vols. 1- .
- Cushing, F. H.
 1882. The Nation of the Willows. Atlantic Monthly, 50:362-374; 541-559.
 1882a. The Zuni Social, Mythic and Religious Systems. Popular Science Monthly, 21:186-192.
 1883. Zuni Fetiches. Bureau of American Ethnology, Report 2:3-45.
 1886. A Study of Pueblo Pottery as Illustrative of Zuni Culture Growth. Bureau of American Ethnology, Report 4:467-521.
 1890. 7th International Congress of Americanists, Berlin.
 1892. Manual Concepts: a Study of the Influence of Hand-usage on Culture Growth. American Anthropologist, old series, 5:289-317.
 1895. The Arrow. American Anthropologist, old series, 8: 307-349.
 1896. Outlines of Zuni Creation Myths. Bureau of American Ethnology, Report 13:321-447.
 1901. Zuni Folk-tales. New York.
 1920. Zuni Breadstuff. Museum of the American Indian, Heye Foundation, Indian Notes and Monographs, 8.
- Cushing, F. H., J. W. Fewkes and E. C. Parsons,
 1922. Contributions to Hopi History. American Anthropologist, 24:253.
- Dall, William Healy
 1884. On Masks, Labrets, and Certain Aboriginal Customs, with an Inquiry into the Bearing of their Geographical Distribution. Bureau of American Ethnology, Report 3:67-202.

- Davis, W. W. H.
 1857. *El Gringo*. New York.
1869. *The Spanish Conquest of New Mexico*. Doylestown, Pa.
- Dellenbaugh, Frederick S.
 1908. *A Canyon Voyage*. New York.
- Domenech, Emmanuel
 1860. *Seven Year's Residence in the Great Deserts of North America*. London.
1857. *Journal d' un missionnaire au Texas et au Mexique*. Paris.
- Donaldson, T.
 1893. *Moqui Indians of Arizona and the Pueblo Indians of New Mexico*. 11th Census, extract, Census Bulletin, Washington.
- Dorsey, G. A.
 1899. *The Voth Collection*. *American Anthropologist*, 1:394.
- Dorsey, G. A., and H. R. Voth
 1901. *The Oraibi Soyal Ceremony*. *Field Museum of Natural History, Anthropological Papers*, 3:1.
1902. *The Mishongnovi Ceremonies of the Snake and Antelope Fraternities*. *Field Museum of Natural History, Anthropological Papers*, 3:159-261.
- Douglas, W. B.
 1912. *A World-quarter Shrine of the Tewa Indians*. *Records of the Past*, XI, Pt. IV, pp. 159-171.
1917. *Notes on the Shrines of the Tewa and other Pueblo Indians of New Mexico*. 19th International Congress of Americanists, 344-376. Washington.
- Duff, U. F.
 1904. *Mexicans and Fatalism*. *American Anthropologist*, 6:182.
- Duflot de Mofras, Eugene
 1844. *Exploration des Territoire de l'Oregon, des Californies,*

et de le mer Vermeille, executee pendant les annees
1840-42. Paris, 2 vols.

Dumarest, Noel

1919. Notes on Cochiti, N. M. American Anthropologist, Mem-
oirs, 6:pt. 3.

Emory, Wm. H.

1847. Report of United States and Mexican Boundary Survey,
34th Congress, 1st Sess. H. R. Ex. Doc. 135, 3 vols.

Emory, Albert, and Cooke

1848. Notes of a Military Reconnaissance, etc., in New
Mexico and California. 30th Congress, 1st Session;
Ex. Doc. 41.

Escudero, Jose A. de

1849. Noticias Estadisticas de Sonora y Sinaloa. Mexico.

Evans, Bessie and May E.

1931. American Indian Dance Steps. Barnes, New York, 3-
103 pp.

Fewkes, J. W.

1890. On the Use of the Phonograph among the Zuni Indians.
American Naturalist, 24:687-691.

1891. A Few Summer Ceremonials at Zuni Pueblo. Journal of
the American Ethnological Association, 1:1.

1892. The Ceremonial Circuit among the Village Indians of
Northeastern Arizona. Journal of American Folk-Lore,
5:33-42.

- 1892a. A few Tusayan Pictographs. American Anthropologist,
old series, 5:9.

1893. Central American Ceremony which Suggests the Snake
Dance of the Tusayan Villagers. American Anthropol-
ogist, old series, 6:285.

1894. Kinship of a Tanoan-speaking Community in Tusayan.
American Anthropologist, old series, 7:162-167.

- 1894a. Kinship of the Tusayan Villagers. American Anthropol-
ogist, old series, 7:394.

- 1894b. Personages who Appear in a Tusayan Ceremony. American Anthropologist, old series, 7:32.
1895. Comparison of Sia and Tusayan Snake Ceremonials. American Anthropologist, old series, 8:118.
1896. Contribution to Ethnobotany. American Anthropologist, old series, 9:14-21.
1897. Morphology of Tusayan Altars. American Anthropologist, old series, 10:129-.
- 1897a. Tusayan Katsinas. Bureau of American Ethnology, Report, 15:245-213.
- 1897b. Tusayan Snake Ceremonies. Bureau of American Ethnology, Report, 16:267-312.
- 1897c. Tusayan Totemic Signatures. American Anthropologist, old series, 10:1-.
- 1898a. Feather Symbol in Ancient Hopi Designs. American Anthropologist, old series, 11:1-.
- 1898b. Winter Solstice Ceremonies at Walpi. American Anthropologist, old series, 11:65; 101-.
1899. Winter Solstice Altars at Hano Pueblo. American Anthropologist, 1:251-276.
- 1899a. Death of a Celebrated Hopi. American Anthropologist, 1:196.
- 1899b. Alosaka Cult of the Hopi Indians. American Anthropologist, 1:522-.
1900. New Fire Ceremony at Walpi. American Anthropologist, 2:80-.
- 1900a. Property Right in Eagles among the Hopi. American Anthropologist, 2:690-.
- 1900b. Tusayan Flute and Snake Ceremonies, Bureau of American Ethnology, Report 19: 2:957-1011.

Fewkes, J. W.

- 1900c. Tusayan Migration Traditions. Bureau of American Ethnology, Report, 19:573-633.
- 1901. Lesser New Fire Ceremony at Walpi. American Anthropologist, 3:438-453.
- 1901a. Owakulti Altar at Sichimovi Pueblo. American Anthropologist, 3:211-.
- 1901b. - - - - - Journal of American Folk-Lore, 9:
- 1902. Minor Hopi Festivals. American Anthropologist, 4:482-.
- 1902a. Pueblo Settlements near El Paso, Texas. American Anthropologist, 4:57-.
- 1903. Hopi Katchinas, Drawn by Native Artists. Bureau of American Ethnology, 21:3-126.
- 1903a. Two Summers' Work in Pueblo Ruins. Bureau of American Ethnology, Report, 22:3-195.
- 1904. Ancient Pueblo and Mexican Water Symbol. American Anthropologist, 6:535-.
- 1904a. Note on Hopi Clans. American Anthropologist, 6:761-762.
- 1906. Hopi Ceremonial Frames from Canyon de Chelly, Ariz. American Anthropologist, 8:664-.
- 1906a. Hopi Shrines near East Mesa, Ariz. American Anthropologist, 8:346.
- 1906b. Sun's Influence on the Form of Hopi Pueblos. American Anthropologist, 8:88.
- 1910. Butterfly in Hopi Myth and Ritual. American Anthropologist, 12:576.
- 1910a. - - - - - Records of the Past, 9:3.
- 1912. Antiquities of the Upper Verde River and Walnut Creek

- Valleys, Ariz. Bureau of American Ethnology, Report 28:181-220.
1923. Clay Figurines made by Navaho Children. American Anthropologist, 25:559-.
- 1923e. Fire Worship of the Hopi Indians. Smithsonian Institution, Report, 1920, 589-610.
- Fewkes, J. W. and J. G. Owens
1892. Lalakonta: a Tusayan Dance. American Anthropologist, old series, 5:105-.
- Fewkes, J. W. and A. M. Stephen
1892. Mamzrauti: A Tusayan Ceremony.
- Fisher, A. K.
1896. A Partial List of Moki Animal Names. American Anthropologist, old series, 9:174-.
- Fleming, Henry Craig
1924. Medical Observations on the Hopi Indians. Museum of the American Indian, Hehe Foundation, Contributions 7:2.
- Forde, C. Daryll
1931. Ethnography of the Yuma Indians. U. C. Publications in American Archaeology and Ethnology, 28:4.
1931a. Hopi Agriculture and Land Ownership. Journal Royal Anthropological Institute, 61:357-405.
- Franciscan Fathers
1910. An Ethnologic Dictionary of the Navaho language. St. Michaels, Arizona.
- Friere-Marreco, Barbara
1915. Note on Kinship Terms Compounded with the Postfix 'e in the Hano-Dialect of Tewa. American Anthropologist, 17:198-.
- Fremont, Jno. C.
1854. The Exploring Expedition to the Rocky Mountains. Auburn and Buffalo.

- Freytas, Nicolas
 1882. Relacion del descubrimiento del Pais y Ciudad de Quivira echo por D. Diego Dionisio de Penalosa etc. In Shea's Expedition of Don Diego de Penalosa etc. New York.
- Froebel, Julius
 n.d. Aus Amerika. Erfahrung, Reisen und Studien. Leipzig, 2 vols.
- Gallatin, Albert
 1851. Sur l'Ancienne Civilisation de Nouveau Mexique. In Nouvelles Annals des Voyages, CXXXI.
- Garrard, Lewis H.
 1850. Wah-to-yah, and the Taos Trail; or Prairie Travel and Scalp Dances, with a Look at Los Rancheros from Muleback and the Rocky Mountain Campfire. Cincinnati.
- Garth, T. R.
 1927. A Comparison of Mental Abilities of Nomadic and Sedentary Indians on a Basis of Education. American Anthropologist, 29:206-.
- Gatschet, Albert S.
 1876. Zwolf sprachen aus dem sudwesten Nord-Amerikas. Weimar.
 1877. Indian languages of the Pacific states and territories. In Beach, William Wallace, The Indian Miscellany, 416-447. Albany.
 1886. Der Yuma-Sprachstamm nach den neuesten handschriftlichen Quellen. Zeitschrift fur Ethnologie, 18:97-122.
 1892. Der Yuma-Sprachstamm. Zeitschrift fur Ethnologie, 24:1-13.
 1892a. Migration of the Taos Indians. American Anthropologist, old series, 5:191-.
- Gifford, E. W.
 1926. Yuman Dreams and Omens. Journal of American Folk-Lore, 39:58-69.

1928. Pottery Making in the Southwest. University of California Publications in American Archaeology and Ethnology, 23:353-373.
1932. The Southeastern Yavapai. University of California Publications in American Archaeology and Ethnology, 29:3.
1933. The Cocopa. University of California Publications in American Archaeology and Ethnology, 31:5.
- Gilman, Benj. Ives
 1908. Hopi Songs. Journal of American Ethnology and Archaeology, 5.
- Goddard, P. E.
 1910. Navaho Blankets. American Museum of Natural History, Journal, 10.
 1920. The Cultural and Somatic Correlations of Uto-Aztekan. American Anthropologist, 22:244-247.
- Goldfrank, Esther Schiff
 1923. Notes on Two Pueblo Feasts. American Anthropologist, 25:188.
 1927. The Social and Ceremonial Organization of Cochiti. American Anthropologist, Memoirs, 33.
- Gregg, Josiah
 1850. Commerce of the Prairies, etc. Philadelphia. Another edition, New York, 1844.
 n.d. Scenes and Incidents of the Western Prairies.
- Guernsey, S. J.
 1920. Notes on a Navajo War Dance. American Anthropologist, 22:304.
- Guthe, Carl E.
 1925. Pueblo Pottery Making, a Study at the Village of San Ildefonso. Papers of the Phillips Academy Southwest Expedition, no. 2, New Haven.

- Gunn, John L.
1917. Schat-Chen. History, Traditions and Narratives of the Queres Indians of Laguna and Acoma. Albuquerque.
- Hackett, Charles Wilson
1911. The Revolt of the Pueblo Indians of New Mexico in 1680. Texas State Hist. Assn. Quarterly, 15:93-147.
1913. Otermin's Attempt to Reconquer New Mexico, 1681-1682. Old Santa Fe, 3: nos. 9 and 10.
- Historical Documents Relating to New Mexico, Nueva Viscaya, and Approaches Thereto to 1773. Carnegie Institution of Washington, 2 vols.
- Haeberlin, H. E.
1916. The Idea of Fertilization in the Culture of the Pueblo Indians. American Anthropologist, Memoirs, 3, pt. 1, pp. 1-55.
- Haile, Fr. Berard, O. F. M.
1923. A Manual of Navaho Grammar. St. Michaels, Arizona.
- Hammond, George P.
1927. Don Juan de Onate and the Founding of New Mexico. Hist. Soc. of New Mexico, publs. in Hist. El Palacio Press, Santa Fe.
- Hammond, George P., and Agapito Rey
1927. The Rodriguez Expedition to New Mexico, 1581-1582. New Mexico Historical Review, 2:239-268; 334-362.
- 1907-10. Handbook of American Indians North of Mexico. Bureau of American Ethnology, Bull. 30, 2 vols.
- Handy, E. S.
1918. Zuni Tales. Journal of American Folk-Lore, 31:451-471.
- Harrington, J. P.
1908. A Yuma Account of Origins. Journal of American Folk-Lore, 21:324-348.
1909. Notes on the Piro Language. American Anthropologist, 11:563.

1910. Brief Description of the Tewa Languages. American Anthropologist, 12:497.
- 1910a. "Butterfly" in Southwestern Languages. American Anthropologist, 12:344.
- 1910b. Introductory Paper on the Tewa Language, Dialect of Taos, New Mexico. American Anthropologist, 12:11.
- 1910c. On Phonetic and Lexical Resemblances between Kiown and Tanoan, Santa Fe, N. M. Archaeological Inst. of America, Papers, 12:--Also, American Anthropologist, 12:119.
1911. Key to the Navaho Orthography Employed by the Franciscan Fathers. American Anthropologist, 13:164.
- 1911a. Numerals "two" and "three" in certain Indian Languages of the Southwest. American Anthropologist, 13:167.
- 1911b. The Origin of the Names Ute and Paiute. American Anthropologist, 13:173-174.
- 1911c. The Phonetic System of the Ute Language. School of American Archaeology, papers, 24:199-222.
1912. Tewa Indian Game of "Canute". American Anthropologist, 14:243.
- 1912a. Tewa Relationship Terms. American Anthropologist, 14:472-493.
1914. Ethno-zoology of the Tewa Indians. Bureau of American Ethnology, Bull. 56.
1916. The Ethnogeography of the Tewa Indians. Bureau of American Ethnology, Report, 29:29-618.
1920. Old Indian Geographical Names around Santa Fe, New Mexico. American Anthropologist, 22:341-359.

Harrington, J. P. and Helen H. Roberts

1928. Picuris Children's Stories with Texts and Songs. Bureau of American Ethnology, Report, 43:289-447.

- Hawley, Florence
Prehistoric Pottery Pigments. American Anthropologist.
- Hertzog, G.
1928. The Yuman Musical Style. Journal of American Folk-Lore, 41:183-231.
- Hewett, Edgar L.
1904. Studies on the Extinct Pueblo of Pecos. American Anthropologist, 6:426-439.
1906. Origin of the name Navaho. American Anthropologist, 9:233.
1932. Ancient Life in the American Southwest. Bobbs, Merrill: Indianapolis, 392 pp.
- Hewett, E. L., J. Henderson, and W. W. Robbins
1913. The Physiography of the Rio Grande Valley, New Mexico, in Relation to Pueblo Culture. Bureau of American Ethnology, Bull. 54.
- Hewitt, J. N. B. H.
1898. Comparative Lexicology. Bureau of American Ethnology, Report, 17:1.
- Hodge, F. W.
1890. Zuni Foot Race. American Anthropologist, old series, 3:227.
1891. Laguna Indian Villages. American Anthropologist, old series, 4:345.
1895a. First Discovered City of Cibola. American Anthropologist, old series, 8:142.
1896. Pueblo Indian Clans. American Anthropologist, old series, 9:345-352.
1896a. Pueblo Snake Ceremonials. American Anthropologist, old series, 9:133.
1897. The Verification of a Tradition. American Anthropologist, old series, 10:299-302.

Hodge, F. W.

1904. Hopi Pottery Fired with Coal. *American Anthropologist*, 6:581.

Holmes, Wm. H.

1886. Pottery of the Ancient Pueblos. *Bureau of American Ethnology, Report*, 4:257-360.

1887. A Study of the Textile Art in its Relation to the Development of Form and Ornament. *Bureau of American Ethnology, Report*, 6:189-252.

Hoom-o-thy-a, or Mike Burns

1927. The Legend of Superstition Mountain. Published by A. Truman Helin, Phoenix, Arizona.

Hoover, J. W.

1929. The Indian Country of Southern Arizona. *Geographical Review*, January, 1929.

Hough, Walter

1897. Hopi in Relation to their Plant Environment. *American Anthropologist*, old series, 10:33.

- 1897a. Music of the Hopi Flute Ceremony. *American Anthropologist*, old series, 10:162.

- 1897b. Stone Working at Tewa. *American Anthropologist*, old series, 10:191.

1898. Environmental Interrelations in Arizona. *American Anthropologist*, old series, 11:133.

- 1898a. The Moki Snake Dance. Chicago.

1915. Hopi Indians. *Little Histories of the North American Indians*, 4. Cedar Rapids, Iowa.

1917. The Sio Shalako at the First Mesa, July 9, 1916. *American Anthropologist*, 19:410-458.

- 1917a. Revival of the Ancient Hopi Pottery Art. *American Anthropologist*, 19:322.

Hough, Walter

1918. Hopi Indian Collection in the U. S. National Museum.
U. S. National Museum Proceedings, 54:285-296.

Hrdlicka, Ales

1900. Physical and Physiological Observations on the Navaho.
American Anthropologist, 2:339.
1903. Laguna Ceremonial Language. American Anthropologist,
5:730.

Hughes, John T.

1850. Doniphan's Expedition. Cincinnati.

Hull, D.

1916. Costana de Sosas Expedition to New Mexico in 1590.
Old Santa Fe Magazine, 3:307-332.

James, Edwin

1823. Account of an Expedition from Pittsburgh thru' the
Rocky Mountains. London, 3 vols.

James, George Wharton

1900. In and Around the Grand Canyon. Boston.
1903. Indians of the Painted Desert Region. Boston.
- 1903a. Palomas Apaches and their Baskets. Sunset, 11:146-153.
1914. Indian Blankets and their Makers. Chicago.

Kidder, Alfred V.

1924. Introduction to Southwestern Archaeology, Department
of Archaeology, Phillips Academy, New Haven, Yale
Press.

Krause, Fritz

1907. Die Pueblo-Indianer. Eine historisch-ethnographische
Studie. Druck von e Karras, Halle. 226 pp.

Kroeber, A. L.

1902. A Preliminary Sketch of the Mohave Indians. American
Anthropologist, 4:277.

Kroeber, A. L.

1908. Notes on the Ute Language. *American Anthropologist*, 10:74.
1909. Notes on Shoshomean Dialects of Southern California. U. C. Publs. in *Am. Arch. and Eth.*, 8:235-269.
1915. Zuni Kin and Clan. *American Museum of Natural History, Anthropological Papers*, 18:39-204.
1916. Speech of a Zuni Child. *American Anthropologist*, 18:529.
1918. Pueblo Traditions and Clans. *American Anthropologist*, 20:328.
1920. Yuman Tribes of the Lower Colorado River. U. C. Publs. in *Am. Arch. and Ethn.*, 16:475-485.
1925. Handbook of the Indians of California. Bureau of American Ethnology, Bull. 78.
1928. Native Cultures in the Southwest. U. C. Publs. in *Am. Arch. and Ethn.*, 23:9.

Latham, R. G.

1857. On the Languages of the Northern, Western, and Central America. In *Translations Philol. Soc.*, 1856. London.

Letherman, Jona

1856. Sketch of the Navaho tribe of Indians, Territory of New Mexico. *Smithsonian Institution, Report*, 1855, 283-297.

Lewton, L.

1912. The Cotton of the Hopi Indians: A New Species of *Gossypium*. *Smithsonian Institution, Misc. Coll.* 60:4.

Lipps, Oscar H.

1909. *The Navajos*. Cedar Rapids, Iowa.

Lowie, Robert H.

1919. The Sun Dance of the Shoshoni, Ute, and Hidatsa. *American Museum of Natural History, Anthropology Papers*, 16:387-431.

- Lowie, Robert H.
1924. Notes on Shoshonean Ethnography. American Museum of Natural History, Anthropology Papers, 20, pt. 3.
1924a. Shoshonean Tales. Journal of American Folk Lore, 37: nos. 143-44.
1929. Notes on Hopi Clans. American Museum of Natural History, Anthropological Papers, 33:6:309-329.
- Lummis, Ch. F.
1906. The Land of Poco Tiempo. New York.
1908. Some Strange Corners of our Country. New York.
1910. Pueblo Indian Folk-stories. New York.
- Luxan, Diego Perez de
1929. Expedition into New Mexico made by Antonio de Espejo, 1582-1583. Trans. by George Hammond and Agapito Rey. Quivira Society, Los Angeles.
- McGuire, J. D.
1896. A Study of the Primitive Methods of Drilling. U. S. National Museum, Report, pp. 625-756.
- Marcy, Randolph
1850. Report of Route from Fort Smith to Santa Fe. Senate Ex. Doc. 64, 31st Congress, 1st Session.
1866. Thirty Years of Army Life on the Border. New York.
- Matthews, Washington
1883. Navajo Silversmiths. Bureau of American Ethnology, Report 2:167-173.
1884. Navajo Weavers. Bureau of American Ethnology, Report 3:371-391.
1887. The Mountain Chant. Bureau of American Ethnology, Report 5:379-467.
1888. Prayer of a Navaho Shaman. American Anthropologist, old series, 1:149.

Matthews, Washington

1899. Navaho Gambling Songs. American Anthropologist, old series, 2:1.
1890. The Gentile System of the Navaho Indians. Journals of American Folk Lore, 3:89-110.
1892. A Study in Butts and Tips. American Anthropologist, old series, 5:345-350.
1894. The Basket Drum. American Anthropologist, old series, 7:202-208.
- 1894a. Songs of Sequence of the Navajos. Journal of American Folk Lore, 7:185-194.
1896. Vigil of the Gods-a Navaho Ceremony. American Anthropologist, old series, 9:50.
1897. Navaho Legends. Journal of American Folk Lore, Memoirs, 5.
1898. Ichthyophobia. Journal of American Folk Lore, 2:105-112.
1900. Two-faced Navaho Blanket. American Anthropologist, 2:638.
1902. Night Chant: A Navaho Ceremony. American Museum of Natural History, Memoirs, 6.
1904. Navajo Yellow Dye. American Anthropologist, 6:194.
- 1904a. Note on Navaho Tribes. American Anthropologist, 6: 758-759.

Mearns, E. A.

1896. Ornithological Vocabulary of the Moki Indians. American Anthropologist, old series, 9:391.

Miller, Merton L.

1898. Preliminary Study of the Pueblo of Taos. Chicago.

Mindeleff, Cosmos

1396. Aboriginal Remains in Verde Valley, Ariz. Bureau of American Ethnology, Report 13:179-261.
1397. The Cliff-ruins of Canyon de Chelly, Ariz. Bureau of American Ethnology, Report 16:73-198.
1898. Navaho Houses. Bureau of American Ethnology Report, 17:469-518.
1900. Localization of Tusayan Clans. Bureau of American Ethnology, Report, 19:635-653.

Mindeleff, Victor

1891. A Study of Pueblo Architecture. Bureau of American Ethnology, Report, 8:3-228.

Mooney, James

1896. The Ghost Dance Religion and the Sioux Outbreak of 1890. Bureau of American Ethnology, Report 14:2:641-1136.
1898. Calendar History of the Kiowa Indians. Bureau of American Ethnology, Report 17:1:129-445.

Mollhausen, Baldwin

1858. Tagbuch enier Reise von Mississippi nach den Kusten der Sudsee. Leipzig.

Morgan, William

1931. Navaho Treatment of Sickness: Diagnosticians. American Anthropologist, 33:390.
1932. Navaho Dreams. American Anthropologist, 34:390-405.

Mota-Padilla, Matias de la

1870. Historia de la conquista de Nueva-Galicia (1742). Mexico.

Onate, Juan de

- Memorial sobre el descubrimiento del Nuevo Mexico y sus acontecimientos. Anos desde 1595-1602. In Coleccion de Documentos Ineditos, 16:188-227.

Discurso de las jornadas que hizo el campo de su Magestad desde la Nueva Espana a la provincia de la Nueva Mexico. In Coleccion de Documentos Ineditos, 16:228-276.

Owens, J. G.

1892. Natal Ceremonies of the Hopi Indians. Journal of American Ethnology and Archaeology, 2:163-175.

Pacheco y Cardenas

1864-81. Coleccion de Documentos Ineditos relativos al Descubrimiento, Conquista y Colonizacion de las posesiones Espanoles en America. Madrid, 34 vols.

Parker, Samuel

1840. Journal of an Exploring Tour beyond the Rocky Mountains in the Years 1835-37. Ithaca, New York. 2nd Edition.

Parker, Wm. B.

1856. Notes Taken during the Expedition through Unexplored Texas. Philadelphia.

Parsons, E. C.

1915. Zuni Conception and Pregnancy Beliefs. 19th International Congress of Americanists, 381-. Washington.

1916. A few Zuni Death Beliefs and Practices. American Anthropologist, 18:245-256.

1916a. Holding Back in Crisis Ceremonialism. American Anthropologist, 18:41.

1916b. The Zuni Adoshle and Sunke. American Anthropologist, 18:338-347.

1916c. A Zuni Detective. Man, 16, no. 99.

1916d. Zuni Inoculative Magic. Science, n. s., XLIV, 469-470.

1916e. The Zuni Lamana. American Anthropologist, 18:521-528.

1916f. The Zuni Molawia. Journal of American Folk Lore, 29: 292-309.

Parsons, E. C.

1917. All Soul's Day at Zuni, Acoma, and Laguna. *Journal of American Folk Lore*, 31:256-263.
- 1917a. The Antelope Clan in Keresan Custom and Myth. *Man*, 17:131.
- 1917b. Ceremonial Friendship at Zuni. *American Anthropologist*, 19:1-8.
- 1917c. Notes on Zuni. *American Anthropologist*, *Memoirs*, 4, pts. 3 and 4.
- 1917d. Office of Governor at Zuni. *American Anthropologist*, 19:454-56.
1918. Pueblo-Indian Folk-Tales, probably of Spanish Provenience. *Journal of American Folk Lore*. 31:216-255.
- 1918a. Notes on Acoma and Laguna. *American Anthropologist*, 21:162-186.
- 1918b. Nativity Myth at Laguna and Zuni. *Journal of American Folk Lore*, 31:256-263.
- 1918c. War god shrines of Laguna and Zuni. *American Anthropologist*, 20:381-405.
1919. Census of the Shi'iwana Society of Zuni. *American Anthropologist*, 21:329-335.
- 1919a. Increase by Magic: A Zuni Pattern. *American Anthropologist*, 21:279.
- 1919b. Mothers and Children at Laguna. *Man*, 19:37-.
- 1919c. Note on Navajo War Dance. *American Anthropologist*, 21:465.
- 1919d. Waiyautitsa and Zuni, New Mexico. *Scientific Monthly*, Nov., 1919, pp. 443-457.
- 1919e. Mothers and Children at Zuni, New Mexico. *Man*, 29: 168-173.

Parsons, E. C.

1920. Notes on Ceremonialism at Laguna. American Museum of Natural History, Anthropological Papers 19:4.
- 1920a. Notes on Isleta, Santa Ana and Acoma. American Anthropologist, 22:56-69.
- 1920b. Spanish Tales from Laguna and Zuni, New Mexico. Journal of American Folk Lore, 33:127-.
1921. Further notes on Isleta. American Anthropologist, 23:149-169.
- 1921a. Hopi Mothers and Children. Man, 21:98-104.
- 1921b. Note on the Night Chant at Twelchedu. American Anthropologist, 23:240.
- 1922a. Hidden Ball on First Mesa, Arizona. Man, 22:89-91.
- 1922b. Oraibi in 1920. American Anthropologist, 24:283-294.
- 1922c. Winter and Summer Dance Series in Zuni in 1918. U. C. Publ. in American Archaeology and Ethnology, 17:171-216.
1923. Fiesta at Santa Ana. Scientific Monthly, 16:177-183.
- 1923a. The Hopi Buffalo Dance. Man, 23:21-26.
- 1923b. Hopi Wowochin Ceremony in 1920. American Anthropologist, 25:156.
- 1923c. Laguna Genealogies. American Museum of Natural History, Anthropological Papers 19:135-292.
- 1923d. Notes on San Felipe and Santo Domingo. American Anthropologist, 25:485-494.
- 1923e. Origin Myth of Zuni. Journal of American Folk Lore, 36:161.
- 1923f. Zuni Names and Naming Practices. Journal of American Folk Lore, 36:171-176.

Parsons, E. C.

1924. The Religion of the Pueblo Indians. 21st International Congress of Americanists, 140-161. The Hague.
- 1924a. The Scalp Ceremonial of Zuni. American Anthropologist, Memoirs, 31.
- 1924b. Tewa Kin, Clan, and Moiety. American Anthropologist, 26:333-339.
1925. A Pueblo Indian Journal. American Anthropologist, Mem. 32.
- 1925a. The Pueblo of Jemez. New Haven.
1926. Ceremonial Calendar of the Tewa of Arizona. American Anthropologist, 28:211-229.
- 1926a. Tewa Tales. American Folk Lore Soc. Mem. 19.
1927. Ceremonial Tewa du Nouveau Mexique et en Arizona. Journal of the Society of Americanists of Paris, n. s., 18L 9-14.
- 1927a. Witchcraft among the Pueblos: Indian or Spanish. Man, 27:106-112; 125-128.
1928. The Laguna Migration to Isleta. American Anthropologist, 30:602-613.
- 1928b. Spanish Elements in the Kachina Cult of the Pueblos. 23d International Congress of Americanists, 582-603.
1929. Kiowa Tales. American Folk Lore Soc. Mem. 22.
- 1929a. Ritual Parallels in Pueblo and Plains Culture with Special Reference to the Pawnee. American Anthropologist, 31:642-654.
- 1929b. Social Organization of the Tewa of New Mexico. American Anthropologist, Mem. 36.
1930. Zuni Tales. Journal of American Folk Lore, 43:1-58.

Parsons, E. C.

1932. Isleta, New Mexico. Bureau of American Ethnology, Report 47:193-466.

1932a. The Kinship Nomenclature of the Pueblo Indians. American Anthropologist, 34:377.

1933a. Some Aztec and Pueblo parallels. American Anthropologist, 36:611-631.

Taos. MS.

Parsons, E. C., and Ralph L. Beals

Pueblo and Mayo-Yaqui Clowns. MS.

Notes on the Cora and Huichol. MS.

Parsons, McIlvaine

1926. The San Juan Turtle Dance. Horae Scholasticae, 59: 177-179.

Penalosa, Juan Diego de.

1882. Expedition of Juan Diego de Penalosa. New York.

Pepper, G. H.

1902. The Making of a Navajo Blanket. Everybody's Magazine, 6:35.

Pinart, Alphonse

Coleccion de Pimeria Alta. Unpublished?

Coleccion de documentos impresos y manuscritos para la historia de los estados del Norte de Mexico. 2 vs.

Coleccion de documentos originals para la historia de Mexico. MS.

1877. Voyage dans l'Arizona. Soc. de Geographie, Bull.

Pino, Pedro B.

1849. Noticias historicas y estadisticas de la antigua provincia de Nuevo Mexico. Mexico, 1812. Revised, 1839, by A. Barriero, and further revised and edited by J. A. de Escudero. Mexico.

Powell, J. W.

1875. Exploration of the Colorado River of the West and its Tributaries, Explored in 1869-1872 under the Direction of the Secretary of the Smithsonian Institution, Washington, 291 pp., maps.

1932. Pueblo Indian painting. 50 Reproductions of Water Color Paintings by Indian Artists, etc. Nice, France.

1933. Pueblo Indian Pottery--Reproductions...from...Indian Arts Fund. Nice, France.

Putnam, G. R.

1895. A Yuma Creation. American Anthropologist, old series, 8:264-267.

Radin, Paul

1931. Mexican Kinship Terms. University of California Publications in American Archaeology and Ethnology, 31:1.

Reagan, Albert

1917. Deep Creek Indians. El Palacio, 5:30-42.

1927. Notes on Jemez Ethnography. American Anthropologist, 29:719-727.

1930a. The Bear Dance of the Ouray Utes. Wisconsin Archaeologist, n. s., 9:148-150.

Reed, Verner Z.

1896. Ute Bear Dance. American Anthropologist, old series, 9:237.

1897. Lo-To-Kah. New York.

Reichard, Gladys A.

1928. Social Life of the Navajo Indians with some Attention to Minor Ceremonies. Columbia University Contributions to Anthropology, 7.

Richardson, Rupert

1929. The Culture of the Comanche Indians. Texas Archaeological and Paleontological Soc. Bull.

- Robbins, W. W., J. P. Harrington, Barbara Friere-Marreco
1916. Ethnobotany of the Tewa Indians. Bureau of American
Ethnology, Bull. 55.
- Sapir, Edward S.
1912. Mourning Ceremony of the Southern Paiutes. American
Anthropologist, 14:168-169.
1913. Southern Paiute and Nahuatl -- A study in Uto-
Aztekan. Part I. Journal Soc. des. Am. de Paris,
n. s., 10:379-425.
1915. Southern Paiute and Nahuatl -- A study in Uto-
Aztekan. Part II. American Anthropologist, 17-98--.
- Sapir, Edward and Albert Sandoval
1930. Note on Navaho Pottery. American Anthropologist,
32:575-576.
- Sauer, C. O.
1932. The Road to Cibola. University of California Pub-
lications, Ibero-Americana 3.
- Saunders, C. F.
1912. The Indians of the Terraced Houses. New York,
Putnam's Sons, 293 pp.
- Schiff, Esther
1921. A Note on Twins. American Anthropologist, 23:387-
388.
- Schufeldt, R. W.
1887. Arrow Release among the Navajos. American Naturalist,
21:784-786.
1888. The Navajo Tanner. U. S. National Museum, Proc., 11:
59-66.
1891. The Navajo Belt Weaver. U. S. National Museum, Proc.,
14:
1891a. Mortuary Customs of the Navajo Indians. American
Naturalist, 25:303-306.

- Schufeldt, R. W.
 1891b. Some Observations on the Havasupai Indians. U. S. National Museum, Proc., 14:387-390.
1892. The Evolution of House-building among the Navajo Indians. U. S. National Museum, Proc., 15 :279-282.
- Segwick, Mary Kathrine
 1926. Acoma: The Sky City. Cambridge.
- Siguenza y Gongora, Carlos de
 1932. The Mercurio Volante of Don Carlos--an Account of the First Expedition of Don Diego de Vargas into New Mexico in 1692. Translated by Irving Albert Leonard. Quivira Society, Los Angeles.
- Simpson, James
 1852. Journal of a Military Reconnaissance from Santa Fe to the Navaho Country. Philadelphia.
- Sitgreave,
 1853. Report of an Expedition down the Zuni and Colorado Rivers. Senate Ex. Doc. 59, 32nd Congress, 2nd Session.
- Smart, Charles
 1868. Notes on the "Tonto" Apaches. Smithsonian Institution, Report, 1867, 417-419.
- Solberg, O.
 1906. Ueber die Bahos der Hopi. Archive fur Anthropologie (4) 32:48-74.
- Spencer, Frank Clarence
 Education of the Pueblo Child. Columbia University, Contributions to Psychology, 7:1.
- Spier, Leslie
 1918. The Havasupai of Cataract Canyon. American Museum of Natural History, Journal, 18:837-845.
1921. Notes on the Kiowa Sun Dance. American Museum of Natural History, Anthropological Papers, 16:6:433-450.

Spier, Leslie

1922. A Suggested Origin for Gentile Organization. *American Anthropologist*, 24:487.
1924. Havasupai Texts. *International Journal of American Linguistics*, 3:909-1116.
- 1924a. Zuni Weaving Technique. *American Anthropologist*, 26:24.
1925. The Distribution of Kinship Systems in North America. University of Washington, Publications in Anthropology, 1:2.
1927. The Association Test as a Method of Defining Religious Concepts. *American Anthropologist*, 29:267.
1928. Havasupai Ethnography. *American Museum of Natural History, Anthropological Papers*, 29:3.
1929. Problems Arising from the Cultural Position of the Havasupai. *American Anthropologist*, 31:213-222.
1933. Yuman Tribes of the Gila Valley. University of Chicago Press, Chicago.

Spinden, Herbert J.

1911. The Making of Pottery at San Ildefonso. *American Museum of Natural History, Journal*, 11:192-196.

Stansbury, Howard

1852. Exploration and Survey of the Valley of the Great Salt Lake, Utah. . . . Senate Ex. Doc. 3, Special Sess., 1852. Philadelphia, Lippincott, Gawbo.

Starr, Frederick

1899. Census of Cochiti. Davenport Academy of Science, Proc. 7:33-45.
1900. Shrines near Cochiti, New Mexico. *American Antiquarian*, 22:4:219-223.

Stephen, A. M.

1889. Tribal Boundary Marks. *American Anthropologist*, old series, 2:214.

Stephen A. M.

- 1889a. The Navajo Shoemaker. U. S. Nat. Mus. Proc., 11.
1893. The Navajo. American Anthropologist, old series,
6:345-362.
1929. Hopi Tales. Journal of American Folk Lore, 1-72.
1930. Navaho Origin Legend. Journal of American Folk Lore,
43:88-104.
1934. Hopi Journal. Columbia University, Contributions in
Anthropology. In press.

Stevenson, James

1883. Illustrated Catalogue of the Collections Obtained from
the Indians of New Mexico and Arizona in 1879. Bureau
of American Ethnology Report 2:307-422.
1883a. Illustrated Catalogue of the Collection Obtained from
the Indians of New Mexico in 1880. Bureau of American
Ethnology, Report 2:429-465.
1884. Illustrated Catalogue of the Collections Obtained from
the Pueblos of Zuni, New Mexico, and Walpi, Arizona,
in 1881. Bureau of American Ethnology, Report 3:511-
594.
1891. Ceremonial of Hasjelti Dailjis and Mythical Sand
Painting of the Navajo Indians. Bureau of American
Ethnology, Report 8:229-285.

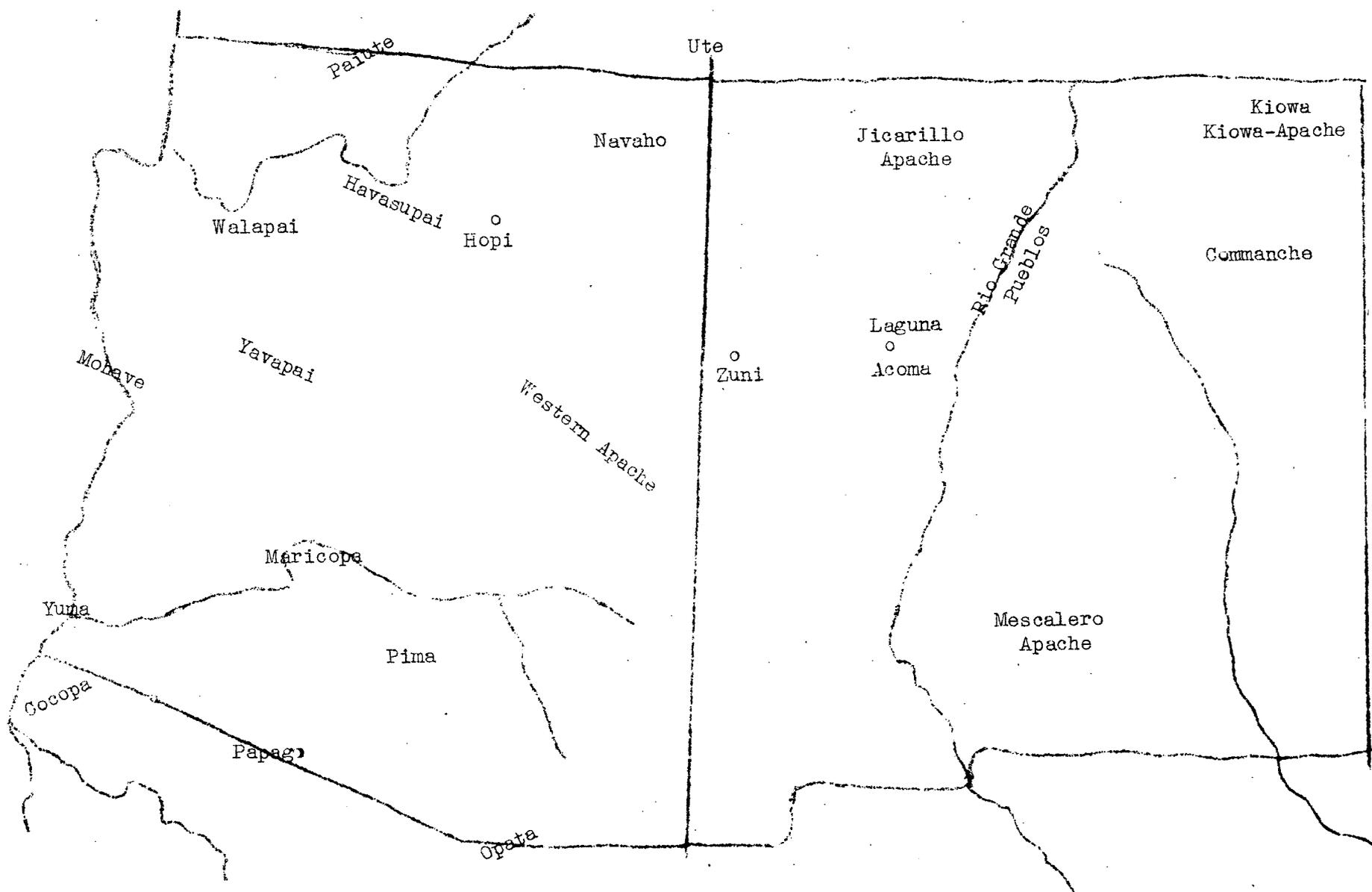
Stevenson, M. C.

1887. Religious Life of the Zuni child. Bureau of American
Ethnology, Report 5:533-555.
1894. The Sia. Bureau of American Ethnology, Report 11:9-
1157.
1898. Zuni Ancestral Gods and Masks. American Anthropologist
old series, 11:33.
1903. Zuni Games. American Anthropologist, 5:468.

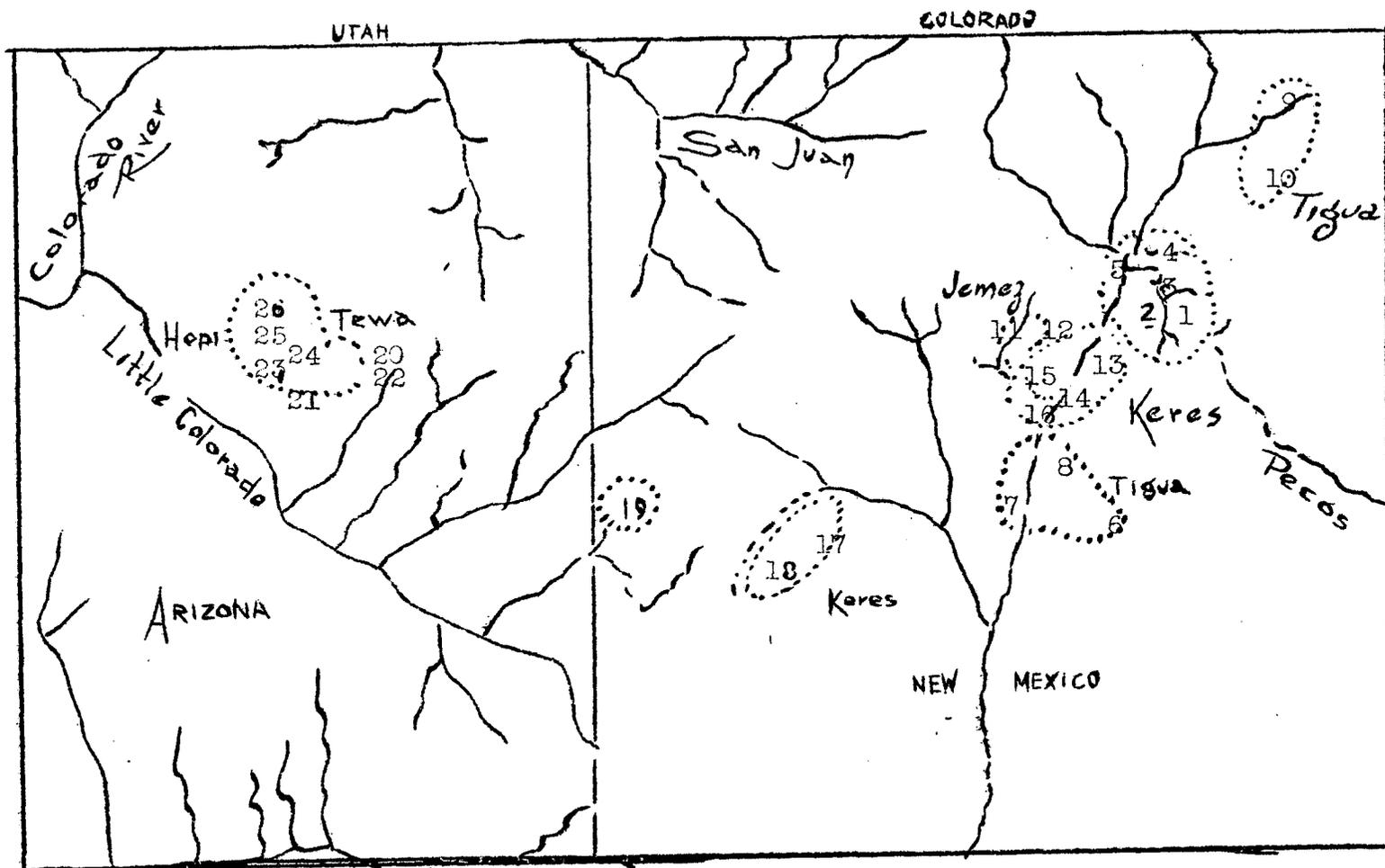
- Stevenson, M. C.
 1904. The Zuni Indians. Bureau of American Ethnology Report 23:1-608.
 1915. Ethnobotany of the Zuni Indians. Bureau of American Ethnology Report 30:31-102.
- Steward, J. H.
 1931. Notes on Hopi Ceremonies in their Initiatory Form in 1927-28. American Anthropologist, 33:59.
 1932. A Uintah Ute Bear Dance, March, 1931. American Anthropologist, 34:263-273.
- Stratton, R. B.
 1909. Captivity of the Oatman girls. Salem, Oregon.
- Strong, Wm. Duncan
 1929. Aboriginal Society in Southern California. University of California Publications in American Archaeology and Ethnology, 26.
- Swanton, J. R.
 1913. Pueblo Clans: A Reply. American Anthropologist, 20:463.
- ten Kate, H. F. C.
 1885. Reizen en Onderzoekingen in Noord Amerika. Leiden.
 1890. Somatological Observations on Indians of the Southwest. Journal of American Ethnology and Archaeology 3. Boston, 1892.
- Thompson, Gilbert
 1884. Indian Dance at Jemez, New Mexico. American Anthropologist, old series, 2:351-355.
- Torquemada, Juan de
 1723. De los vientos i un libros rituales i monarchia Indiana. Tomos I-III. Madrid.
- Tozzer, Alfred M.
 1905. A Navaho Sand Picture of the Rain Gods and its Attendant Ceremony. 13th International Congress of Americanists, 147-156.

- Tozzer, Alfred M.
 1908. A Note on Star Lore among the Navajos. *Journal of American Folk Lore*, 21:28-32.
- Trippel, Eugen J.
 1889. The Yuma Indians. *Overland Monthly*, 2nd ser., 13: 561-584; 14:1-11.
- Twitchell, R. E.
 1911. *The Leading Facts of New Mexican History*. Torch Press, Cedar Rapids, Iowa. 2 vols., 1911-12.
 1914. *Spanish Archives of New Mexico*. Torch Press, Cedar Rapids, Iowa, 2 vols.
- Villagran, Gaspar de
 1610. *Historia de la Nueva Mexico*. Alcala.
- Voth, H. R.
 1900. Oraibi Marriage Customs. *American Anthropologist*, 2: 238.
 1901. The Oraibi Powamu Ceremony. *Field Museum of Natural History, Anthropological Papers*, 3:60-158.
 1902. The Mishongnovi Ceremonies of the Snake and Antelope Fraternities. *Field Museum of Natural History, Anthropological Papers* 3:3.
 1903. The Oraibi Oa'qol Ceremony. *Field Museum of Natural History, Anthropological Papers*, 6:3-46.
 1903a. The Oraibi Summer Snake Ceremony. *Field Museum of Natural History, Anthropological Papers*, 3:262-458.
 1905. Oraibi Natal Customs and Ceremonies. *Field Museum of Natural History, Anthropological Papers*, 6:47-61.
 1905a. Hopi Proper Names. *Field Museum of Natural History, Anthropological Papers*, 6:65-113.
 1912. The Oraibi Marau Ceremony. *Field Museum of Natural History, Anthropological Series*, 11:1.
 1912a. Brief Miscellaneous Hopi Papers. *Field Museum of Natural History, Anthropological Papers*, 11:2.

- Wallace, Susan E.
1889. Land of the Pueblos. New York. Nuns and Knight.
- Walton, E. L., and T. T. Waterman
1925. American Indian Poetry. American Anthropologist,
27:25.
- Walton, E. L.
1930. Navajo Song Patterning. Journal of American Folk
Lore, 105-118.
- Webster, C. L.
1912. Archaeological and Ethnological Researches in South-
western New Mexico. Arch. Bull. 3:4; 4:1; 2:5; 2:3.
Madison, Indiana; Ottawa, Kansas, 1912, 1913, 1914.
- Wetherill, L. W. and B. Cummings
1922. A Navajo Folk-tale of Pueblo Bonito. Art and Archae-
ology, 14:3:132-136.
- Whipple, A. W.
1856. Report of Explorations for a Railway Route Near the
Thirty-fifth Parallel, etc. Report upon the Indian
Tribes, etc. In Reports of Explorations and Surveys,
etc., for the Pacific Railway, vol., 3.
- White, Leslie
1928. A comparative Study of Keresan Medicine Societies.
23d International Congress of Americanists, pp. 404-419.
- 1928a. Summary Report of Field Work at Acoma. American Anthro-
pologist, 30:559.
1932. The Acoma Indians. Bureau of American Ethnology, Report
47:17-192.
- 1932a. The Pueblo of San Felipe. American Anthropologist,
Memoirs, 38.
- Winship, George Parker
1909. The Journey of Coronado. New York.
- Wislizenius.
1848. Memoir of a Tour to Northern Mexico. Senate Miscel-
laneous Document 26, 30th Congress, 1st Session.



MAP 1 - TRIBES OF THE SOUTHWEST



- MAP 2 - LOCATION OF MODERN PUEBLOS
- | | | |
|---------------|------------------|----------------|
| 1 Nambé | 8 Taos | 20 Sichimovi |
| 2 Tesuque | 9 Picuris | 21 Walpi |
| 3 San Isidro | 10 Jemez | 22 Mishongnovi |
| 4 San Juan | 11 Santo Domingo | 23 Shumpovi |
| 5 Santa Clara | 12 San Felipe | 24 Shipaulovi |
| 6 Isleta | 13 Santa Ana | 25 Oraibi |
| 7 Sandia | | 26 Hotavilla |