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THE DEVELOPMENT OF WESTERN PUEBLO CULTURE.

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THE DEVELOPMENT OF WESTERN PUEBLO CULTURE

by

Alfred E. Johnson

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DEPARTMENT OF ANTHROPOLOGY
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1965
I hereby recommend that this dissertation prepared under my direction by Alfred E. Johnson entitled The Development of Western Pueblo Culture be accepted as fulfilling the dissertation requirement of the degree of Doctor of Philosophy.

Dissertation Director

After inspection of the dissertation, the following members of the Final Examination Committee concur in its approval and recommend its acceptance:

*This approval and acceptance is contingent on the candidate's adequate performance and defense of this dissertation at the final oral examination. The inclusion of this sheet bound into the library copy of the dissertation is evidence of satisfactory performance at the final examination.
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Substantive basis for the following study of the development of Western Pueblo culture is derived from an analysis of the archaeological remains at Turkey Creek pueblo, as well as from the literature on Southwestern archaeology. Turkey Creek pueblo is a large ruin in the Point of Pines area, which was excavated as a segment of the activity at The University of Arizona Archaeological Field School in 1958, 1959, and 1960. A National Science Foundation grant provided financial aid for the excavation. Emil W. Haury and Raymond H. Thompson served as directors of the field school during the three summers of activity at Turkey Creek. A detailed descriptive report on Turkey Creek has been prepared for eventual publication.

I wish to express my appreciation to the members of my dissertation committee, Edward P. Dozier, William A. Longacre, and Raymond H. Thompson, whose critical suggestions did much to improve the quality of the study and its presentation. Thanks are also due Bruce D. Lindsay, staff photographer at the Arizona State Museum, and the late Robert F. Burgh, who drafted the map of Turkey Creek pueblo.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF ILLUSTRATIONS</td>
<td>v</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vi</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>SUMMARIES OF SOUTHWESTERN CULTURE</td>
<td>17</td>
</tr>
<tr>
<td>Mogollon Culture</td>
<td>17</td>
</tr>
<tr>
<td>Anasazi Culture</td>
<td>23</td>
</tr>
<tr>
<td>Hohokam Culture</td>
<td>25</td>
</tr>
<tr>
<td>INFLUENCES ON MOGOLLON CULTURE PRIOR TO A.D. 1000</td>
<td>28</td>
</tr>
<tr>
<td>Mogollon 1</td>
<td>28</td>
</tr>
<tr>
<td>Mogollon 2</td>
<td>32</td>
</tr>
<tr>
<td>Mogollon 3</td>
<td>33</td>
</tr>
<tr>
<td>Mogollon 4</td>
<td>37</td>
</tr>
<tr>
<td>Summary</td>
<td>42</td>
</tr>
<tr>
<td>THE DEVELOPMENT OF WESTERN PUEBLO CULTURE</td>
<td>45</td>
</tr>
<tr>
<td>Changes from A.D. 1000 to 1100</td>
<td>47</td>
</tr>
<tr>
<td>Point of Pines Area</td>
<td>50</td>
</tr>
<tr>
<td>Reserve Area</td>
<td>52</td>
</tr>
<tr>
<td>Other Areas</td>
<td>56</td>
</tr>
<tr>
<td>Summary</td>
<td>57</td>
</tr>
<tr>
<td>Changes from A.D. 1100 to 1300</td>
<td>59</td>
</tr>
<tr>
<td>Turkey Creek Pueblo</td>
<td>60</td>
</tr>
<tr>
<td>Other Areas</td>
<td>77</td>
</tr>
<tr>
<td>THE EXPANSION OF WESTERN PUEBLO CULTURE</td>
<td>79</td>
</tr>
<tr>
<td>SUMMARY</td>
<td>84</td>
</tr>
<tr>
<td>LITERATURE CITED</td>
<td>87</td>
</tr>
</tbody>
</table>

iv
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Map of the Southwest showing Mogollon, Anasazi, and Hohokam areas</td>
<td>18</td>
</tr>
<tr>
<td>2.</td>
<td>Comparative phase chart.</td>
<td>29</td>
</tr>
<tr>
<td>3.</td>
<td>Map of Turkey Creek pueblo</td>
<td>at back</td>
</tr>
<tr>
<td>4.</td>
<td>Examples of locally made pottery types from Turkey Creek pueblo</td>
<td>65</td>
</tr>
<tr>
<td>5.</td>
<td>Examples of Anasazi-derived pottery types from Turkey Creek pueblo</td>
<td>67</td>
</tr>
<tr>
<td>6.</td>
<td>Representative small artifacts from Turkey Creek pueblo</td>
<td>69</td>
</tr>
<tr>
<td>7.</td>
<td>Representative stone artifacts from Turkey Creek pueblo</td>
<td>70</td>
</tr>
</tbody>
</table>
ABSTRACT

Archaeological research in east-central Arizona and west-central New Mexico has succeeded in defining a distinctive cultural entity, the Mogollon, which came into existence about A.D. 1 and lasted until A.D. 1000. The 1000 years of Mogollon culture history are characterized by the indigenous evolution of pithouse villages, brownware pottery, and various artifact forms. Flexed inhumation was the characteristic burial type. Foreign influences were relatively insignificant, resulting in the introduction of a few architectural and artifact forms from the Anasazi Pueblo area, and in different artifacts and an alternative method of disposal of the dead, cremation, from the Hohokam area.

Between A.D. 1000 and 1300, Anasazi and Hohokam influences, for an as yet unknown reason, moved into the Mogollon area at a greatly accelerated rate. This intrusion of foreign features resulted in the disappearance of Mogollon culture, and the development of a new entity, Western Pueblo culture. Western Pueblo culture represents a syncretism of Mogollon, Anasazi, and Hohokam elements. Diagnostic traits of the entire Western Pueblo region include the plaza or multiple-court type of pueblo layout, rectangular small kivas, brownware pottery, the three-quarter grooved stone axe, and extended supine inhumation.
Rectangular great kivas and the practice of cremation characterize smaller segments of the Western Pueblo area. The Cibola and Kayenta portions of the Anasazi area were instrumental in the introduction of Anasazi traits into the Mogollon area, during this post-A. D. 1000 period, while the Gila Basin and the Safford valley areas of Hohokam occupation were responsible for the introduction of other features.

Slightly differing complexes of archaeological traits allow the Western Pueblo region to be subdivided into a number of areas. Included are the Reserve and Mimbres areas in New Mexico, and the Forestdale, Point of Pines, Verde Valley, Flagstaff, and Roosevelt Basin areas in Arizona. Reserve and Point of Pines have been explored more thoroughly than the other areas mentioned above, and consequently they are used to exemplify the development of Western Pueblo culture.
INTRODUCTION

The modern-day Pueblo Indians of the southwestern United States reside in the northern plateau, portions of Arizona and New Mexico. They are distinguished from their indigenous neighbors by an emphasis on farming as the principal basis of subsistence and by their residence in compact villages (Dozier 1964: 79). Arizona Pueblo groups are the Shoshonean-speaking Hopi and the Tanoan-speaking (Tewa) people of Hano, who migrated to the Hopi mesas around A.D. 1700 as a result of the Spanish re-conquest of the Rio Grande valley (Eggan 1950: 139). Three Pueblos are situated between the Hopi mesas and the Rio Grande. One is Zuni, whose linguistic affiliations are in dispute (Dozier 1964: 82); the other two are Acoma and Laguna, both Keresan-speaking Pueblos (Wendorf 1954, Fig. 1). Keresan-speaking Pueblos in the Rio Grande valley include Santo Domingo, San Felipe, Cochiti, Santa Ana, and Zia. Other pueblos along the Rio Grande are traditionally grouped on the basis of the Tanoan sub-families, Tiwa, Tewa, and Towa. The four Tiwa-speaking Pueblos are Taos, Picuris, Sandia, and Isleta. The five Tewa-speaking groups are San Juan, Santa Clara, San Ildefonso, Tesuque, and Nambe. The single Towa-speaking village is Jemez.
Ethnological research among the Pueblos, especially in the realm of social organization and to a certain extent in religion, has resulted in the recognition of significant differences between the eastern Pueblos along the Rio Grande and the other Pueblos situated to the west. These differences were originally noted by Parsons as early as 1924 (333-9). They have been examined by Strong (1927), Hawley (1937), and more recently by Eggan (1950) and Dozier (1964).

Eggan's (1950) detailed, descriptive, and comparative, study of Pueblo social organization resulted in the recognition of close parallels between the Hopi villages, Hano, Zuni, Acoma, and Laguna. As a consequence, Eggan (1950: 2) classified these groups as the Western Pueblos, a classification that is generally accepted today (Dozier 1964: 85). Eggan (1950: 291) describes Western Pueblo social structure as follows:

This type of social structure is characterized by a kinship system of "Crow type" organized in terms of the lineage principle; a household organization based on the lineage and clan and, in some cases, the phratry group; an associational structure organized around the ceremony and its symbols, with relationships to the lineage, clan, and household; and a theocratic system of social control. There is a further relationship of the social system to the world of nature through the extension of social patterns to natural phenomena.

Eggan's studies in the Pueblo area centered in the west (1950), although comparisons were made with the Pueblos of the Rio Grande valley. Eggan classified all of the Rio Grande groups as the Eastern Pueblos, but noted that "in contrast to the relative uniformity in social
organization which we have seen for the western Pueblos it is important to note that there is considerable variation in social structure within the eastern Pueblos--as well as certain major differences between east and west" (Eggan 1950: 305).

In recognition of the variations in social organization which Eggan (1950: 305) mentions for the Eastern Pueblos, and on the basis of recent research, Dozier (1964: 84-5) suggests that Eastern Pueblo, as a classificatory device, should be restricted to the Tanoan-speaking groups. Only the Tiwa- and Tewa-speakers are included, however, as Towa (Jemez) social organization is more akin to that of the Rio Grande Keresans (see below). Eastern Pueblo or Tanoan social organization is characterized as follows (Dozier 1964: 85-6):

This Eastern Pueblo type is characterized by a kinship system where the terms are descriptive and bilateral. The household is either of the nuclear type or else extended to include relatives of one or both sides of the parents. There is no hint of a lineage principle in the organization of the terms, the family structures, or in the behavior of its members. Beyond the household is a dual division of the community, usually referred to as a moiety, whose functions are governmental and ceremonial. Other related structures include three types of sodalities or associations: (1) those with governmental and religious functions associated with the dual divisions; (2) medicine associations embodying curing and exorcising practices; and (3) associations with special functions, such as those for war, hunting, and clowning. In addition, Tanoan village communities have a Katcina cult or some vestige of an organization concerned with supernatural beings vaguely connected with ancestral spirits common among all the other Pueblos. None of these related structures are kinship units. Moiety membership is required of all, and moiety affiliation is usually with father's moiety but may be changed at marriage or for other reasons. Katcina membership
is village wide for men and membership is confirmed by initiation at the time of puberty. Associations (2) and (3) are voluntary, but are most often joined to rid oneself of an illness.

The eastern Keresan-speaking Pueblos (Santo Domingo, San Felipe, Cochiti, Santa Ana, Zia) and the Towa-speaking Pueblo of Jemez, according to Dozier (1964: 86), "exhibit affinity to a social structure of the general Western Pueblo type described above. Terms are classificatory but the patterns of organization vary in some Keresan villages between an old system fitted to a lineage principle and one where usages are arranged on a 'bilateral' pattern."

In summary, ethnologists, by means of comparative studies of social organization, have recognized basic, and important, differences between the Eastern and Western Pueblos. In a classification resulting from the recognition of these differences, the Hopi villages, Hano, Zuni, Acoma, and Laguna are grouped together as the Western Pueblos. The Eastern Pueblos include all of the Tanoan-speaking groups along the Rio Grande except Jemez. Jemez is placed with the Rio Grande Keresan-speaking Pueblos which, although geographically situated in the east, have patterns of social organization similar to those of the Western Pueblos.

The term Western Pueblo has been used by Southwestern archaeologists as well as by ethnologists. Archaeological conceptions of Western Pueblo are due, in the main, to a series of articles by Reed (1942; 1946; 1948; 1949; 1950). These articles include a
classification of cultural development in the Mogollon and Anasazi areas which suggests that both Anasazi culture and Mogollon culture should be grouped as variants of a Puebloan pattern (Reed 1942). The primary interest in the series of articles, however, is not in definitions of these two suggested variants. Rather, Reed (1948) compares and contrasts Anasazi culture after the development of surface masonry pueblos with developments in the Mogollon area on a similar time horizon.

According to Reed (1948) Anasazi Pueblo culture centers in the northern Southwest, including the San Juan region, the upper Rio Grande area, the Hopi-Zuni districts of the northern Little Colorado, southwestern Utah, and portions of Nevada. It is characterized by "compact cellular masonry pueblos with circular kivas; corrugated gray and polished black-on-white pottery; full-grooved or side-notched stone axes; inhumation of the dead, generally in a flexed position; cranial deformation of the lambdoid variety" (Reed 1948: 9). Other, apparently distinctive, traits are turkey keeping (Reed 1951a: 202) and unidirectional or front-oriented pueblo layouts (Reed 1956: 16). The Anasazi Pueblo complex had its origins in the spatially coterminous Basketmaker development (Reed 1948: 10-11).

Reed (1948) has outlined a second pueblo manifestation in the area to the south of the Little Colorado river, from the Verde Valley and Flagstaff to the White Mountains and the upper Gila river drainage.
He assigns a post-A.D. 1300 date to this development and terms it Western Pueblo. The Western Pueblo archaeological complex includes "pueblos with rectangular kivas if any, no round rooms; polished brownware (including brown corrugated polished, black-smudged interiors, polychrome redware, etc.); the three-quarter grooved stone axe; extended supine inhumation; vertical occipital deformation" (Reed 1948: 9). Turkey hunting, rather than keeping, is suggested as a Western Pueblo characteristic, as is the plaza or multiple-court type of pueblo layout (Reed 1951a: 202; 1956: 16). Western Pueblo culture is believed to be descended from Mogollon culture, although a Mogollon culture extensively influenced by the introduction of Anasazi Pueblo traits (and possibly peoples) into the Mogollon area (Reed 1948: 13). Although it has found less acceptance, the term Mogollon-Pueblo has also been used to refer to this complex (Gifford 1957: 346; Rinaldo 1964: 86).

Beginning about A.D. 1300, and continuing during the 14th and 15th centuries, Western Pueblo culture expanded beyond its earlier borders. This expansion carried Western Pueblo traits into the Hohokam area of southern and southwestern Arizona, and also into the Anasazi Pueblo region of the northern Southwest. The introduction of Western Pueblo traits into the Anasazi area is believed to have centered in the Hopi area, the Zuni region, and the Acoma district. As a consequence, Reed (1948: 14) suggests that the Western Pueblo
archaeological complex should be broadly correlated with the Western Pueblo ethnographic division. Anasazi Pueblo traits, on a late time horizon, seem to have concentrated in the Rio Grande valley, suggesting a correlation of the Anasazi Pueblo complex with the Eastern Pueblo ethnographic division (Reed 1948: 14).

Reed's views on cultural developments in the Anasazi and Mogollon areas, some of which were published over 20 years ago, have, for the most part, stood the test of time. In large part, they are accepted in the current examination of Western Pueblo culture, although a few points of disagreement should be discussed. First of all, Reed (1942) has suggested that both Anasazi culture and Mogollon culture should be considered variants of a Puebloan pattern. The cultural, temporal, and spatial distinctiveness of the Mogollon complex was noted prior to the publication of Reed's statement (Haury 1936b: 79-130). More to the point, however, is the fact that it has been restated by a number of Southwestern archaeologists since (Martin and Rinaldo 1950; Wheat 1955). Mogollon as a culture distinct from both Anasazi and Hohokam is accepted in the present analysis.

Whereas Reed (1948: 13) would restrict the Western Pueblo archaeological complex to the period after A.D. 1300, in the present study the temporal limits are extended some 300 years further into the past, and a beginning date of A.D. 1000 is suggested. This temporal extension is based on the fact that extensive changes occurred in the
Mogollon area at about this time, changes which can be attributed to Anasazi Pueblo and Hohokam influence (Wheat 1955). An important result of this influence seems to have been a cultural syncretism, with features from the Mogollon, Anasazi, and Hohokam cultures combining to form a new and distinct cultural pattern. Most of the traits which Reed (1948: 13) lists as diagnostic of Western Pueblo culture are identifiable in the new pattern. Consequently, on the basis of the presence of these traits and in recognition of the significant changes which occurred at this time, it is suggested that the temporal limits of Western Pueblo cultural development be extended to A.D. 1000.

Reed has suggested that there are continuities from the Western Pueblo archaeological complex into the modern Western Pueblos, and that the Anasazi Pueblo archaeological complex can be correlated with the modern Eastern Pueblos. While in general this reconstruction seems valid, there are some problems. Among these are the evidences of continuity from the Kayenta and Chaco divisions of Anasazi Pueblo into the modern Western Pueblo Hopi villages and Zuni. The Chaco division, along with the Mesa Verde area, also seems to have participated in the development of the modern Eastern Pueblos. In other words, there is not a one-to-one correlation between Anasazi Pueblo and the Eastern Pueblos and the Western Pueblo archaeological complex and the modern Western Pueblos. Although continuity undoubtedly exists, any attempt to work out the interwoven
patterns of influence will undoubtedly prove difficult.

Another problem in the continuity from prehistoric pueblo developments into the modern Pueblos is the seeming enigma of extensive Anasazi influence involved in the development of Western Pueblo culture, and yet basic differences in social organization between the modern Eastern and Western Pueblos believed to be descended from these archaeological patterns. If Anasazi influence was as extensive as suggested by the archaeological record, one might expect a change in social organization as well as in material remains. This was apparently not the case, however, and although no final solution to this problem can be advanced at this time, some alternatives can be suggested.

First of all, Anasazi influence in the development of Western Pueblo culture may have been restricted to the introduction of material items such as pottery, architectural forms, and various artifacts. If this were the case, the modern Western Pueblo social forms might represent a retention of an earlier Mogollon pattern, which was not changed by Anasazi influence. Second, as will be discussed below, much of the Anasazi influence involved in the development of Western Pueblo culture seems to have come from the Cibola portion of the Anasazi area. Nothing is known of social organization in the prehistoric Cibola region, so it is at least possible that the social forms of this area were the same as in the area involved in the change to Western
Finally, it is possible that the social forms which have been used as criteria to distinguish the modern Pueblos into Eastern and Western groups are of modern derivation, and do not represent prehistoric patterns.

Reed (1951a; 1951b; 1948; 1950; 1956) has provided summaries of the spatial and temporal distributions of the various traits which he lists as characteristic of the Western Pueblo archaeological complex. For the most part, the validity of these traits as diagnostic has been supported by recent research, although one feature, vertical occipital cranial deformation, has been challenged. Wendorf (1954: 215) notes that vertical occipital deformation occurs commonly in the Mesa Verde section of the Anasazi Pueblo area, as well as in the Western Pueblo area.

Further doubt is cast on the validity of vertical occipital and lambdoidal cranial deformation as cultural indices by a recent study of the skeletal material collected at Point of Pines. Point of Pines is in the heart of the Western Pueblo area, and for this reason should be characterized by a high incidence of vertical occipital deformation. This type of deformation does occur, but a high incidence of lambdoidal deformation is present as well (K. A. Bennett, personal communication). Recent studies, then, based on large samples, suggest that vertical occipital and lambdoidal cranial deformation occur together in both the Anasazi Pueblo and the Western Pueblo regions. A distinct type of
cranial deformation, therefore, does not characterize either of the regions, and this trait cannot be used as a distinguishing characteristic.

At the time Reed presented his views on Pueblo cultural development, rectangular kivas or no kivas seemed to be characteristic of Western Pueblo sites, while circular kivas were restricted to the Anasazi Pueblo region. More recent research has demonstrated the presence of rectangular kivas in the Anasazi Pueblo area (Lindsay, personal communication), although circular kivas have not yet been found in the Western Pueblo country. It is quite possible that the presence of rectangular kivas in the Anasazi area can be attributed to Western Pueblo influence, as they seem to have at least 200 years of temporal priority in this more southerly region. As will be discussed in more detail below, the earliest rectangular kivas seem to occur between A.D. 900 and 1000, with the addition of ventilator-deflector-hearth complexes to rectangular pithouses (Ferdon 1956: 79-86; Martin and Rinaldo 1947: 310; 1950: 250). During later periods the rectangular kiva continues as an important feature in the Western Pueblo area. Its appearance in the Anasazi Pueblo area is, apparently, not before about A.D. 1200 (Lindsay, personal communication).

An architectural feature which Reed (1948) has not mentioned as a characteristic of Western Pueblo culture, but one which should be included, is the rectangular great kiva. Perhaps his reason for not including this ceremonial structure is the fact that it does not occur
over the entire Western Pueblo area, but is restricted to the central portion, with its most common occurrence in the Point of Pines and Reserve regions (Olson 1960, Fig. 1). The rectangular great kiva first appears in the Mogollon-Western Pueblo region during Mogollon 4. Both a northern source (Olson 1960: 185) and an indigenous development (Martin 1959: 122) have been suggested to explain the origin of this kiva form.

Reed (1948) has emphasized the importance of the introduction of Anasazi Pueblo traits and the continuity of Mogollon features in the development of Western Pueblo culture. Other than pointing out the probable introduction of the three-quarter grooved axe from the Hohokam area (Reed 1951b), however, Reed has not evaluated the extent of Hohokam influence. The present analysis indicates that Hohokam influence was significant in the development of Western Pueblo culture. This is suggested by the presence of features such as cremations, ball courts, pottery vessels, and shell ornaments in Western Pueblo sites.

Cremation was the common method of disposal of the dead among the Hohokam, while the practice of inhumation was typical of both the Mogollon (Wheat 1955: 66-71) and the Anasazi (Stanislawski 1963: 308-9). The first occurrence of cremations in the Mogollon area was in the Mimbres section during Mogollon 3 (Haury 1936b, Fig. 30). This occurrence is believed to be a result of Hohokam
influence on the Mimbres Mogollon. That this method of disposal of the
dead did not find favor in the Mimbres area is indicated by the fact that
only six cremations were discovered at the later Swarts Ruin as opposed
to 1,009 inhumations (Cosgrove and Cosgrove 1932: 23-4). The Swarts
Ruin is a Mimbres phase Western Pueblo site, probably occupied just
prior to the postulated population dispersal from the Mimbres area
which occurred about 1200 (Danson 1957: 110).

A Mogollon and Western Pueblo area where cremation did
assume some importance is Point of Pines. At Point of Pines, crema­
tions were introduced during the Western Pueblo Reserve phase, dated
from 1000 to 1100. This introduction is believed due to Hohokam
influence. Through time, the practice of cremation at Point of Pines
became more important, with a climax during the late phases of the
Western Pueblo Point of Pines ruin, about 1400 (Robinson and Sprague

Another feature indicative of Hohokam influence in the develop­
ment of Western Pueblo culture is a ball court which occurred in the
Point of Pines region. The court was associated with the Reserve
phase component of the Stove Canyon site, dated to the 1000 to 1100
period (Johnson 1961: 563-7). Perhaps as interesting as the occurrence
of cremations and ball courts in Western Pueblo sites is an inference
which can be drawn from this occurrence. In the Hohokam area, ball
courts and the practice of cremation are believed to have religious
significance. The introduction of these features into the Western Pueblo area, therefore, can be suggested as indicative of the introduction of Hohokam ceremonial and religious patterns into Western Pueblo culture.

Additional evidence of Hohokam influence in the origin of Western Pueblo culture is in the form of Hohokam artifacts which are of common occurrence in Western Pueblo sites. Included are palettes, stone vessels, shell ornaments, turquoise mosaics, copper bells, and ceramic containers. Identifications of Hohokam artifact forms in both Mogollon and Western Pueblo contexts are given in some detail in following sections of this report.

The preceding pages have outlined ethnological and archaeological conceptions of Western Pueblo culture, and have discussed in some detail modifications of and suggested additions to the list of diagnostic characteristics of the Western Pueblo archaeological complex or culture. With this information as a basis, it is now possible to suggest a definition of Western Pueblo culture, or more properly of the Western Pueblo cultural tradition.

Western Pueblo culture developed in the mountainous region of east-central Arizona and west-central New Mexico about A.D. 1000. It represents a cultural syncretism of Mogollon features, Anasazi Pueblo traits, and Hohokam elements. Universal features include the plaza or multiple court type of pueblo layout, rectangular small kivas,
brownware pottery, extended inhumations, the three-quarter grooved axe, and turkey hunting rather than keeping. Features which are diagnostic of restricted portions of the Western Pueblo area include cremations and ball courts at Point of Pines and rectangular great kivas, especially in the Point of Pines and Reserve regions.

Spatial limits varied through time. When first recognizable, Western Pueblo culture extended from the Mogollon Rim on the north to present-day Interstate 10 highway on the south, and from the Continental Divide on the east to Cherry Creek on the west. At about A.D. 1300, the spread was from the Verde Valley and Flagstaff to the White Mountains and the Upper Gila river drainage, and from the Little Colorado river to northern Chihuahua, Mexico (Reed 1948). Slightly later the complex spread into the Hohokam area of Southwestern Arizona and also into the Anasazi Pueblo region, where Western Pueblo traits are identifiable in the Hopi area, the Zuni region, and the Acoma district. The movement of Western Pueblo traits, and probably peoples, into the latter three regions may account, at least in part, for the ethnographic distinction between the Western and the Eastern Pueblos.

The definition of Western Pueblo culture given above briefly summarizes a possible reconstruction of one aspect of Southwestern prehistory. It is offered as a hypothesis, and will be used as a guide for the remainder of the report which will consider the origin and early development of Western Pueblo culture. As noted above, Western
Pueblo culture is believed to represent a syncretism of Mogollon, Anasazi, and Hohokam features. The following section of the report will present short summaries of these three cultural entities. The summaries will emphasize the distinctive elements of each of the entities, and will serve as standards against which the validity of the presumed cultural syncretism can be judged.
SUMMARIES OF SOUTHWESTERN CULTURES

Mogollon Culture

The archaeological complex known as Mogollon culture had as its geographic locale the western and southwestern portions of the state of New Mexico, the eastern and southeastern parts of Arizona, and the northern section of Chihuahua, Mexico (Fig. 1). Within this vast region, Mogollon remains are known to extend from east of the Rio Grande river in New Mexico to the San Pedro river in Arizona, and from the Little Colorado river on the north to the Casas Grandes section of Chihuahua on the south (Wheat 1955, Fig. 1). The most notable topographic feature of the area is its mountainous terrain, and there is a consequent adaptation of Mogollon culture to a montane and inter-montane valley environment.

Initial human occupation of the mountainous zone of east-central Arizona and west-central New Mexico was apparently by a group of people who bore a variant of the widespread Desert culture pattern (Jennings 1957), known as the Cochise culture (Sayles and Antevs 1941). Cochise economy was based on hunting and gathering with an emphasis on the latter, as attested by the large quantities of milling stones commonly found in Cochise sites (Sayles and Antevs 1941). Cultivated corn was present by about 3000 B.C. (Mangelsdorf
Figure 1. Map of the Southwest showing Mogollon, Anasazi, and Hohokam areas.
Other pre-ceramic examples of the presence of corn are known from the Cienega site near Point of Pines (Martin and Schoenwetter 1960: 33-4), and at Tularosa and Cordova Caves near Reserve, New Mexico (Martin and others 1952: 464-71). Houses appear during the final stage of Cochise cultural development. The house remains are roughly oval pits with poorly defined fire areas, large interior storage pits, and no definite evidences of roof supports. Entrances were at the side with a wall step (Sayles 1945: 1-4).

Archaeological sites representative of the Sulphur Spring stage of Cochise cultural development, dated from 8000 B.C. to 5000 B.C., have not yet been discovered in this mountainous section. Whether this absence indicates that the area was actually unoccupied, or is merely indicative of incomplete exploration, remains to be seen. The Chiricahua stage (5000 B.C. to 1500 B.C.) is represented by sites in the Point of Pines area of Arizona (Haury 1957: 2-27) and in the Pine Lawn Valley of New Mexico (Martin, Rinaldo, and Antevs 1949). From this time on, for several thousand years, occupation seems to have been continuous.

Cultural continuity from the Cochise complex into the Mogollon culture has been pointed out by a number of authors (Haury 1943: 260-3; Martin and others 1952: 484-505). Haury (1943: 260-3) has noted a distinctive, eastern, regional development of the most recent or San
Pedro stage of the Cochise culture, which is believed to have changed into the Mogollon tradition. The only major difference between San Pedro stage Cochise and Mogollon is the presence of pottery in the early phases of the latter. Suggested dates for the first introduction of pottery, and the consequent change from Cochise to Mogollon, vary considerably. Most of the dates cluster around A.D. 1, however, as indicated by the fact that Wheat (1955, Fig. 12) gives 300 B.C. and Bullard (1962, Fig. 27) shows about A.D. 300.

Slightly differing architectural and artifact complexes allow the Mogollon culture area to be subdivided into a number of distinct regions or areas. The three areas which have been outlined for Arizona are Forestdale (Haury 1940; Haury and Sayles 1947), Point of Pines (Wheat 1954), and San Simon (Sayles 1945). Mogollon subdivisions in New Mexico include the Reserve area (Martin 1940), the Mimbres region (Haury 1936), and the Jornada district (Lehmer 1948). At least partial, regional phase sequences have been established for all of the areas.

Mogollon sites are characteristically situated on a high bluff or mesa or on a well drained ridge above a stream valley (Wheat 1955: 34). Within the village, the pithouses are scattered at random. Although a variety of architectural forms have been noted in the Mogollon area (Wheat 1955, Table 6), there are certain area-wide trends and similarities in architecture. One of the general trends in
Mogollon architecture is a change from early roundish houses to later quadrangular forms (Wheat 1955: 53-5), and another is the change from houses which either lacked side passageways or had short side entries to those with long lateral entryways (Wheat 1955: 55). Another general trend is the small, but constant, increase in pithouse size through time (Wheat 1955: 55-6). Throughout all periods of Mogollon history, eastward orientation of entrance passages and central-post supported or gable roofs were common features (Bullard 1962: 181).

Many Mogollon sites include a structure, similar in form to the dwellings, but from three to four times as large (Wheat 1955: 61). These structures are believed to have had a ceremonial function, and are usually called great kivas. Many of the structures of this type lack domestic furniture, and some have distinctive floor grooves, which perhaps functioned as foot drums (Wheat 1955: 61-2).

Inhumation was the typical method of disposal of the dead among the Mogollon (Wheat 1955: 66-71). Burials were in pits scattered at random about the village. Flexure of the body was usual, typically on the side, the back, or in a half-sitting position in the pit. Orientation of the body was apparently not patterned, as considerable variation is exhibited. Offerings are rare.

Wheat (1955: 72-3) has characterized Mogollon pottery in the following way:
The earliest horizon yet known contains polished brown and polished redwares. These wares, or variations of them, continue as basic wares of the ceramic complex throughout Mogollon history. Techniques of texturing and neck-banding are introduced late in this plainware horizon. The first painted wares consist essentially of plainware bowls in which crudely executed broad-line red designs are painted. Later developments of this red-on-brown painting are mainly refinements of technique and increasing complexity of design elements and layout. The red-on-brown period is terminated, or interrupted by the innovation of a white slip, thus producing a red-on-white pottery series. In the eastern and northern parts of the area, this is followed by black-on-white pottery.

The various types of Mogollon non-ceramic artifacts are presented in detail in Wheat's summary of Mogollon culture (1955: 110-54), so there is no need to repeat this information here. It is worth noting, however, that direct continuities from the Cochise artifact complex are evident in many of the Mogollon artifacts, and that these continuities are especially obvious in the abundant ground and pecked stone artifacts of a rough-and-ready nature (Wheat 1955: 110). In general terms, Mogollon non-ceramic artifacts are characterized by an emphasis on utility and by a lack of elaboration.

In summary, Mogollon culture is recognizable in eastern Arizona, western New Mexico, and northern Chihuahua, at about A.D. 1, when pottery was introduced into the pre-existing Cochise cultural complex. Mogollon people lived in villages of scattered pithouses, situated on high bluffs or on terraces above stream valleys. They buried their dead in a flexed position in small pits placed throughout the village. A majority of their pottery was plain red and brown,
although a characteristic red-on-brown decorated ware was produced. Artifacts other than pottery were of a simple and utilitarian type, characterized by a lack of elaboration. Ground and pecked stone artifacts predominate, with the three-quarter grooved axe as a characteristic. Subsistence was based on agriculture, supplemented by hunting and gathering.

**Anasazi Culture**

The following summary of the Anasazi cultural tradition is drawn primarily from Rouse (1962) and Wormington (1951). Anasazi culture occupied the northern, plateau portion of the Southwest, roughly from the Rio Grande to eastern Nevada, and from the San Juan river to the Little Colorado (Fig. 1). The ultimate origin of Anasazi culture is unknown, although it apparently developed out of a regional variant of the Desert Culture, as in the case of the Mogollon complex outlined above. This variant has been labeled Basketmaker II. Although the similarity is somewhat obscured by the wealth of perishable material from dry caves in the Anasazi area, there are significant resemblances between Basketmaker II remains and the San Pedro Cochise complex, which has been suggested as the antecedent of Mogollon. Included are an economy based on hunting and gathering, supplemented by limited corn agriculture. Other similarities are pithouse dwellings and general artifact resemblances. The Basketmaker II variant of the Desert culture is dated from A.D. 1 to 600.
Anasazi sites were typically situated on rises above nearby water courses, or in caves and rockshelters. The earliest domiciles were shallow, circular pithouses. Later the pithouses became deeper, and an alternative type of dwelling, the surface masonry pueblo appeared. Ceremonial architecture included small, circular kivas and great kivas, also typically circular. In contrast to Mogollon villages, Anasazi communities exhibit a greater degree of formal patterning, often taking the form of the unidirectional or front-oriented type of pueblo layout.

Disposition of the dead was by inhumation throughout the entirety of Anasazi development, with flexure of the body usual. Bodies were placed in oval pits, often dug into trash deposits near the dwellings. The earliest Anasazi period is without pottery, a trait which appears about A.D. 600. It is probable that the origin of pottery in the Anasazi area can be attributed to Mogollon influence, as pottery first occurs in the more southerly area some 600 years earlier. The plain gray, black-on-gray, and neck banded types which are earliest in the Anasazi area foreshadow the later typical Anasazi gray corrugated and black-on-white types. Non-ceramic artifacts include a variety of forms manufactured from stone, bone, shell, and various portions of plants. For the most part, they are unelaborate, designed apparently for their function, not their beauty. A characteristic type is the full-grooved stone axe.
Regional variants of Anasazi culture have been deliniated, primarily on the basis of stylistic differences in pottery combined with variations in architecture and non-ceramic artifact forms. Well known variants are the Kayenta area of north-central Arizona, the Mesa Verde region of southwestern Colorado, the Cibola section of northeast Arizona and northwest New Mexico, and the Rio Grande district in north-central New Mexico.

Hohokam Culture

Hohokam culture has two major divisions, known as River Hohokam and Desert Hohokam (Haury 1950, Fig. 2). The River Hohokam division centers in the Gila Basin of southern Arizona, an area along the Gila river from approximately Florence, Arizona to Gila Bend (Arizona State Museum archaeological survey files). The Desert Hohokam area is the southwestern portion of Arizona and the northern section of Sonora, Mexico (Haury 1950: 3-21; Johnson 1963: 174-86). The origins of Hohokam culture are in debate, and both a development out of a western variant of the San Pedro Cochise complex (Haury 1943: 260-3) and a migration (DiPeso 1956: 562-4) have been suggested as possibilities. A date of A.D. 1 is currently accepted for the beginning of Hohokam culture (Haury 1962, Fig. 2), and its development can be traced to about 1450.
In the following summary of Hohokam characteristics, only the River variant will be considered, as it alone was significant in the development of Western Pueblo culture. Although nine phases of River Hohokam cultural development have been recognized, for the purposes of this survey, Hohokam culture is viewed as a tradition. The emphasis is on significant features which serve to distinguish Hohokam culture from Mogollon and Anasazi developments, rather than on the traits which distinguish the various phases of Hohokam development.

Typically, Hohokam sites are situated on the first terrace above the Gila river, and often at some distance from the river (Wasley and Johnson 1965: 79-81). Villages consist of a number of randomly placed pithouses, outside ramada areas, trash mounds, often a ball court (Gladwin and others 1937), occasionally a pyramidal structure for ceremonial purposes (Wasley 1960: 244-62), and distinct cemetery areas for disposal of the dead (Gladwin and others 1937: 91-100). Large, rectangular pithouses were present in the early phases, and although large houses continue throughout the sequence, smaller examples were a late alternative (Gladwin and others 1937: 59-90).

Until quite late in their history, when the practice of inhumation was introduced (Gladwin and others 1937: 96), the typical method of disposal of the dead was cremation (Gladwin and others 1937: 91-100). Cremations were of the secondary type where fragments of calcined human bone were gathered at the crematorium for burial
elsewhere. Early cremations were simple pits, later the calcined bones and offerings were placed in pottery vessels (Gladwin and others 1937: 91-100).

Hohokam culture was based on an agricultural economy, supported by an elaborate system of canal irrigation (Gladwin and others 1937: 50-8). Corn, beans, and squash were primary crops, and this fare was supplemented by hunting, fishing, and gathering. Characteristic of Hohokam artifacts, in contrast to those of the Mogollon and Anasazi areas, is an elaboration of ornamentation. Artifacts were not only made to be used, they were also produced to be handsome. Excellent work was done in chipping and grinding stone, and in carving bone and shell. The Hohokam were the great shell workers of the Southwest, and it is to this source that can be attributed most of the shell ornaments found so widely distributed (Gladwin and others 1937: 101-67). The earliest Hohokam pottery is plain red and gray in color; later red-on-gray painting was introduced, to be followed by the typical red-on-buff (Gladwin and others 1937: 168-229). A modeled-clay human figurine complex is characteristic, especially of the earlier phases (Gladwin and others 1937: 233-45).
INFLUENCES ON MOGOLLON CULTURE

PRIOR TO A. D. 1000

The syncretism of Mogollon, Anasazi, and Hohokam features represented in Western Pueblo culture is believed to have taken place during the period between A. D. 1000 and 1100 in east-central Arizona and west-central New Mexico. The syncretism resulted in the submergence of Mogollon culture in the new cultural entity. It is worth noting, however, that prior to this submergence, Mogollon was not a culture in isolation, but was subjected to varying intensities of influence from Anasazi and Hohokam groups.

As a contrast to the type of contact and change which occurred after A. D. 1000, the following section summarizes pre-1000 influences and changes. It is organized on the basis of the four periods of Mogollon cultural development defined by Wheat (1955: 7-12), and in terms of the Mogollon areas which seem to have figured significantly in the development of Western Pueblo culture. Included are the Forestdale, Point of Pines, Reserve, and Mimbres areas (Fig. 2).

Mogollon 1

In the areas under consideration, the Mogollon 1 period is moderately well known, as indicated by the fact that excavations have
Figure 2. Comparative phase chart. Phase and period names in parentheses not discussed in text. Underlined phase names have not been published.
<table>
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<th>ANASAZI PERIODS</th>
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<th>HOHOKAM PHASES</th>
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been made in nine sites or components of sites pertaining to this period (Fig. 2). In the north, the Hilltop phase component of the Bluff site of the Forestdale area (Haury and Sayles 1947) has been assigned to the Mogollon 1 period (Wheat 1955, Table 1). The early Circle Prairie phase component of Crooked Ridge Village (Wheat 1954) is the only Mogollon 1 period component which has been excavated in the Point of Pines area (Wheat 1955, Table 1).

In the Reserve area, Mogollon 1 components have been identified at the SU site (Martin 1940; 1943; Martin and Rinaldo 1947), at the Promontory site (Martin, Rinaldo, and Antevs 1949), at Starkweather Ruin (Nesbitt 1938), at LA 2948 (Wendorf 1956), and at Tularosa Cave (Martin and others 1952). Mogollon Village (Haury 1936) and the Harris site (Haury 1936) in the Mimbres region have Mogollon 1 components.

To date, Anasazi artifacts have not been identified in the various Mogollon 1 period sites and components listed above. Bullard (1962: 187) has suggested that the presence of a number of architectural features in Mogollon 1 pithouses can be attributed to Anasazi influence. Included are wide, clay, fireplace copings, partition ridges, antechambers, heating pits, possibly ventilators, and benches. Bullard (1962: 99-190) has shown that all of these features are more common and more elaborately developed in the Anasazi region than they are in the Mogollon area. On this basis, and on the basis of a revision of Southwestern chronological relationships (1962, Fig. 27), he suggests
that the architectural features were introduced into the Mogollon area, during the Mogollon 1 period, from Basketmaker III groups resident to the north (Bullard 1962: 187).

The present study favors the traditional sequence of development and chronological relationships for the Southwest, and as a consequence doubts that the architectural features listed by Bullard (1962: 187) were introduced from the Anasazi region into the Mogollon area. According to this traditional view, Mogollon 1 has temporal priority over Basketmaker III (Wheat 1955, Fig. 12). The various architectural features noted by Bullard (1962: 187) are believed to have been introduced into the Anasazi area from the Mogollon, rather than the other way around. Wheat (1955: 210-11) has previously discussed the northward spread of one of the traits, antechambers, in some detail.

Although Anasazi features are not positively identifiable in Mogollon 1 contexts, an occasional item, which can be attributed to trade with the Hohokam, does occur. In the Hilltop phase component of the Bluff site, sherds from Gila Plain vessels, a sherd from a red-on-buff vessel, unidentifiable as to type, and pottery human figurines which are stylistically similar to figurines from the Hohokam area were found. Other possible Hohokam trade items include a Vermetus bead from a Georgetown phase level in Tularosa Cave (Martin and others 1952: 184) and several Glycymeris bracelets and a few Olivella beads from Pine Lawn phase contexts at the SU site (Martin 1940: 143).
Mogollon 2

Mogollon 2 is the least known of the five periods of Mogollon cultural development (Fig. 2). Data on the Mogollon 2 period come from the Cottonwood phase component of the Bluff site in the Forestdale area (Haury and Sayles 1947) and from the late Circle Prairie phase component at Crooked Ridge Village in the Point of Pines region (Wheat 1954). Although a Mogollon 2, San Lorenzo phase, has appeared on comparative phase charts (Haury and Sayles 1947, Fig. 34) for the Mimbres area, it is poorly known. As pointed out by Bullard (1962: 71) the phase seems only to be manifested in a pottery type, San Lorenzo Red-on-brown.

Whereas Anasazi traits were not recognizable in Mogollon 1 components, there is an indication of, at least, a minor amount of contact between the Mogollon and the Anasazi during the Mogollon 2 period. The evidence for this contact comes from the Cottonwood phase component of the Bluff site in the Forestdale valley (Haury and Sayles 1947: 43-4, 56). Three of the Cottonwood phase houses were subrectangular in outline and slab lined, suggesting Basketmaker influence. Sherds of the Anasazi pottery type, Lino Gray, were also present in Cottonwood phase associations. Hohokam trade apparently continued, as a Gila Plain sherd was found (Haury and Sayles 1947: 56).

Although Anasazi features could not be identified in the late Circle Prairie phase component of Crooked Ridge village, Hohokam
traits were present in some quantity. Included are Sweetwater Red-on-gray, Snaketown Red-on-buff, Gila Plain, and Vahki Plain sherds (Wheat 1954, Fig. 62), and an Olivella shell bead (Wheat 1954: 162). Several other Hohokam items, such as a circular stone bowl, a three-quarter grooved axe with raised ridges, and a "medicine stone" (Wheat 1954: 138) were found in Circle Prairie phase contexts, but could not be assigned to the early and late subdivisions of the phase.

**Mogollon 3**

Mogollon 3 (Fig. 2) in the Forestdale area is represented by the Forestdale phase, which was defined by excavations at the Bear Ruin (Haury 1940). Bear Ruin is believed to be a "local and marginal aspect of the Mogollon culture, its individuality having been intensified by hybridization with the Anasazi" (Haury 1940: 126). Anasazi elements at the Bear Ruin include architectural features, such as benches, central hearths, ventilating ducts, deflectors, floor pits, and bins, in the pit-houses. A certain amount of trade for Anasazi pottery was carried on, as indicated by the presence of Lino Gray, Lino Black-on-gray, White Mound Black-on-white, and Lino Smudged sherds (Haury 1940: 84-6).

Trade with the Hohokam continued, during the Mogollon 3 period in the Forestdale area, as a number of Hohokam items were discovered at the Bear Ruin. Included are sherds from Gila Butte Red-on-buff and Gila Plain vessels, Olivella beads, Glycymeris
bracelets, a Haliotis whole-shell container, and a long-bladed, serrated, projectile point (Haury 1940: 84-6, 112, 117).

Although the publication of the results of recent excavations will do much to clarify the situation, at the present time the Mogollon 3 period is poorly known in the Point of Pines region. Mogollon 3, in the Point of Pines area, is represented by a single pithouse, which was tentatively placed in the San Francisco phase (Wheat 1954, Fig. 62). Anasazi traits were not found in association with this house, but sherds, from Hohokam Gila Butte Red-on-buff and possibly Vahki Plain vessels, did occur. Although the data are meager, it is apparent that Hohokam trade with the Point of Pines area, which began during the preceding Mogollon 2 period, continued during Mogollon 3.

The San Francisco phase component of the Turkey Foot Ridge site (Martin and Rinaldo 1950) in the Reserve, New Mexico region, has been assigned to the Mogollon 3 period (Wheat 1955, Table 1). Despite the fact that Hohokam pottery was not found at the Turkey Foot Ridge site, there is some evidence of Hohokam contact in the form of a three-quarter grooved axe and a Glycymeris bracelet (Martin and Rinaldo 1950: 334, 348). Although a few sherds of Red Mesa and Puerco Black-on-white pottery were found in the fills of the Mogollon 3 pithouses at the Turkey Foot Ridge site (Martin and Rinaldo 1950: 367-70), there were no Anasazi traits definitely in association with the Mogollon 3 features.
Additional information on the Mogollon 3 period in the Reserve, New Mexico region comes from Tularosa Cave. A number of Anasazi pottery types occurred in the San Francisco phase levels of the cave. Included are La Plata Black-on-gray, Reserve Black-on-white, Tularosa Black-on-white, Lino Gray, Puerco Black-on-red, and St. Johns Polychrome (Martin and others 1952, Table 1). With the exception of the Lino Gray and the Lino Black-on-gray sherds, the intrusive types date to periods later than Mogollon 3 and probably are a result of the mixture of deposits. Hohokam traits were not present in unmixed San Francisco phase deposits, although Olivella beads and Glycymeris bracelets were present in levels which contained San Francisco, Reserve, and Tularosa phase materials (Martin and others 1952: 184).

The final site with a Mogollon 3 component, in the Reserve region, is Starkweather Ruin (Nesbitt 1938). The only suggestion of Anasazi influence, during Mogollon 3 at Starkweather Ruin, is the presence of a partial masonry lining in Pithouse B, a ceremonial structure (Nesbitt 1938: 30-1). Wheat (1955: 60) has noted that, if Pithouse B is assigned to the correct phase, this is the first major use of stone masonry by the Mogollon. It will be remembered that slab-linings were found in several Mogollon 2 houses in the Forestdale area (Haury and Sayles 1947), but this use of stone is quite distinct from the masonry construction observed in Pithouse B at Starkweather. There is, however, some question about the phase assignment of Pithouse B, and it
may pertain to the succeeding Mogollon 4 component of the Starkweather occupation. A few objects of shell, including Glycymeris bracelets and Olivella beads are indicative of trade between the Mogollon 3 occupants of Starkweather and the Hohokam (Nesbitt 1938: 108-10).

In the Mimbres area, Mogollon 3 (San Francisco phase) components were present at both Mogollon Village and the Harris site (Haury 1936b). Trade between the Mimbres area Mogollon and the Anasazi is indicated by the presence of White Mound Black-on-white, Kiatuthlanna Black-on-white, Lino Gray, and Kana-a Gray sherds from the fills of pithouses (Haury 1936b: 26, 66). The knowledge of Anasazi Black-on-white pottery apparently exerted an influence on local Mogollon potters who produced, for the first time during this period, a white-slipped type known as Three Circle Red-on-white. Three Circle Red-on-white represents a blend of Mogollon and Anasazi ceramic features. It has a brownware paste and decoration in red paint, both of which can be attributed to Mogollon conceptions of pottery manufacture. A chalky-white slip also occurs; a feature that apparently resulted from Anasazi influence.

Evidence of Hohokam trade and influence, during the Mogollon 3 period at Mogollon Village and the Harris site, includes burial features and artifacts. The burial features are pit cremations and intentionally broken pottery vessels, found with some of the inhumations (Haury 1936b, Fig. 30). Artifacts, which probably represent trade from the
Hohokam, include Olivella beads, Vermetus beads, Glycymeris bracelets, and saucer-shaped shell beads (Haury 1936b, Fig. 30).

**Mogollon 4**

With the exception of a single house at the Bluff site, the Mogollon 4 (Corduroy phase) period in the Forestdale area has not been described. The subrectangular Bluff site house had been cut into bedrock, and the lower portions of the walls were of this material. Upper portions of the walls were of slabs and rubble, representing the continued use of stone in wall construction, which first appeared in this area during Mogollon 2, perhaps as a result of Basketmaker influence (Haury and Sayles 1947: 44). Lino Gray pottery was present in this Mogollon 4 house at the Bluff site (Haury and Sayles 1947: 39), apparently a product of trade with Anasazi groups to the north.

In the Point of Pines region, a single pithouse at Crooked Ridge Village was tentatively assigned to the Mogollon 4 period (Wheat 1954, Fig. 62). Kiatuthlanna Black-on-white pottery was found in association with this pithouse, indicating trade with northern Anasazi groups. Mogollon 4, in the Point of Pines area, is better known from excavations at Nantack Village (Breternitz 1959). Anasazi artifacts found at Nantack include Reserve Black-on-white, Kiatuthlanna Black-on-white, Red Mesa Black-on-white, and Puerco Black-on-white pottery (Breternitz 1959, Table 5) and full-grooved axes (Breternitz
Architectural features, perhaps reflecting Anasazi influence, were discovered in four of the Nantack houses. All of the houses had peripherally-placed rocks, probably for the basal support of jacal walls. This use of stone in wall construction may represent the beginning of the transition from semi-subterranean pithouses to surface masonry, a change believed due to Anasazi influence (Breternitz 1959: 22).

Hohokam contact in the Point of Pines area also continued during Mogollon 4. Hohokam artifacts discovered at Nantack Village were palettes, three-quarter grooved axes, Glycymeris bracelets, shell rings, shell disc beads, and pottery. Hohokam pottery types included Sacaton Red-on-buff and Gila Plain from the Gila Basin.

The Mogollon 4 period (Three Circle phase) in the Reserve, New Mexico area is known from excavations at several sites. One of the more important is the village at Turkey Foot Ridge (Martin, Rinaldo, and Antevs 1949; Martin and Rinaldo 1950). Contact between the Mogollon 4 occupants of Turkey Foot Ridge and Anasazi groups to the north is indicated by the presence of Red Mesa Black-on-white, Puerco Black-on-white, and Reserve Black-on-white pottery (Martin, Rinaldo, and Antevs 1949: 190; Martin and Rinaldo 1950: 367-70).

Architectural features at Turkey Foot Ridge, that are indicative of Anasazi influence, occurred in Pithouse C. Pithouse C was constructed during the late Mogollon 3 period, and apparently modified during Mogollon 4. Certain of the modifications are suggestive of Anasazi
influence. Included are the conversion of the lateral entrance passage into a ventilator and the addition of sections of rubble masonry (Martin and Rinaldo 1950: 250). A single Glycymeris bracelet is the only indication of trade with the Hohokam (Martin and Rinaldo 1950: 348).

A second Reserve area village, occupied during Mogollon 4, is the Twin Bridges site (Martin, Rinaldo, and Antevs 1949). Although a sherd of the Anasazi pottery type, Abajo Red-on-orange, was found at the Twin Bridges site, it came from the fill of one of the pithouses, and may or may not be associated with the Mogollon 4 occupation. The only other evidence of foreign contact at this site is a Glycymeris bracelet (Martin, Rinaldo, and Antevs 1949: 176, 191).

Additional information on the Mogollon 4 period, in the Reserve, New Mexico region, is derived from the SU site, where a few of the houses were occupied during this time period. Hohokam traits were not recognizable in the trait complexes associated with these houses, but an indication of Anasazi influence was in evidence. This indication includes the presence of Red Mesa Black-on-white pottery (Martin and Rinaldo 1947: 306-8), and certain architectural features. The architectural features, restricted to a single pit structure (Y), consisted of a ventilator, possible deflector, and fireplace arrangement, similar to that in Anasazi kivas. This complex of architectural features suggested the possibility that House Y was, in fact, a ceremonial structure (Martin and Rinaldo 1947: 310).
Few foreign traits were recognizable in the several Mogollon 4 (Three Circle phase) pithouses, present at Starkweather Ruin (Nesbitt 1938; Wheat 1955, Table 5). The only Anasazi trade items are full-grooved axes (Nesbitt 1938: 103). Hohokam trade pieces could not be identified in the Mogollon 4 houses at Starkweather Ruin.

Another Mogollon 4 site, with indications of foreign influence in the Reserve area, is LA 2947. This site, known from a single pithouse, was excavated during the course of a highway salvage project. Although there were no Hohokam or Anasazi artifacts in the pithouse at LA 2947, certain architectural features suggest Anasazi influence. These features include a ventilator, a deflector, and a hearth, arranged as they often are in Anasazi kivas (Ferdon 1956: 79-86). The hearth had a clay curb, extending above the level of the floor, a trait which is more characteristic of the Anasazi than of the Mogollon (Bullard 1962: 157-8).

Anasazi influences were also recognizable in the Mogollon 4 component at the Switchback site, another highway salvage operation (Peckham 1957). Included are Kana-a Gray, Kiatuthlanna Black-on-white, and Red Mesa Black-on-white pottery.

Mogollon 4 in the Mimbres area is known from excavations at the Harris site (Haury 1936b), at the Cameron Creek site (Bradfield 1929), and at a ruin situated near Glenwood, New Mexico (Wendorf 1957). Hohokam traits at the Harris site include pit cremations, slate
palettes, bi-lobed beads, and numerous shell artifacts of various types (Haury 1936b, Fig. 30). Anasazi influence is also in evidence during the Mogollon 4 period at the Harris site, and is manifested in the presence of several pottery types. The Anasazi pottery types are Lino Black-on-gray, Red Mesa Black-on-white, and Reserve Black-on-white (Haury 1936b: 66). Eight of the Mogollon 4 pithouses at the Harris site had, at least some, stone masonry included in their construction (Haury 1936b, Fig. 25). This new trait in the Mimbres region is probably an introduction from the Anasazi area. Anasazi features are not mentioned for the Mogollon 4 houses at Cameron Creek village (Bradfield 1929), but a number of Hohokam trade items can be recognized. Included are stone palettes, Olivella beads, shell disc beads, Glycymeris bracelets, figure-8 beads, and carved shell pendants (Bradfield 1929: 120-4). A Mogollon 4 pithouse, discovered beneath a Mimbres phase pueblo near Glenwood, New Mexico during the course of a highway salvage excavation, produced Anasazi pottery which was classified as Kiatuthlanna-Red Mesa Black-on-white (Wendorf 1957).

The blend of Mogollon and Anasazi ceramic features, which first occurred in the Mimbres area during Mogollon 3, continued during Mogollon 4. Three Circle Red-on-white, produced in small quantities during Mogollon 4, was gradually replaced by Mangas Black-on-white (formerly known as Mimbres Boldface Black-on-white). Mangas Black-on-white has a brownware paste and certain design features that represent
a carry-over from earlier Mogollon ideas. Anasazi-derived elements include the white slip, the black paint, and design elements (Haury 1936a: 22-7). Mimbres Black-on-white, apparently derived from Mangas Black-on-white and more common during the succeeding Mimbres phase, also represents a combination of Mogollon and Anasazi ceramic features (Haury 1936a: 22-7). In addition to the Anasazi features identifiable in Mangas and Mimbres Black-on-white pottery, Hohokam elements are also detectable (Haury 1936a: 24-5). Included are the scroll and life-form designs.

Summary

The preceding survey of the evidence for foreign influences in the Mogollon area prior to A.D. 1000 indicates that these influences were present during the earliest Mogollon period and that they increased through time. By Mogollon 4, a number of foreign features had a significant place in Mogollon culture, foreshadowing the marked changes which were to occur after A.D. 1000. Anasazi elements were dominant among the foreign traits which had been adopted into Mogollon culture by or during Mogollon 4. Included are architectural features such as the use of stone for wall construction, the ventilator-deflector fireplace arrangement reminiscent of Anasazi kivas, and possibly, hearths with clay curbs. Trade in Anasazi black-on-white pottery occurred, as did trade in stone artifacts, represented most definitely by
the full-grooved axe. The Mimbres Mogollon had begun to adopt Anasazi conceptions of pottery decoration.

Less common are Hohokam features, represented primarily by trade items such as stone palettes, shell ornaments, and pottery. Pit cremations are also present, undoubtedly borrowed from the Hohokam, and perhaps representing the beginning of the introduction of more complex cultural patterns from the Hohokam.

Hohokam traits which occur in the Mogollon area cannot be associated with a specific portion of the Hohokam region. A suggestion at least, as to the specific area of origin of the Anasazi features can be made, however.

A majority of the Anasazi pottery types which occur as intrusives in the Mogollon area prior to A.D. 1000 are Cibola Whiteware types. Included are La Plata Black-on-gray, White Mound Black-on-white, Kiatuthlanna Black-on-white, Red Mesa Black-on-white, Puerco Black-on-white, and Reserve Black-on-white. The other four types, Lino Gray, Lino Smudged, Lino Black-on-gray, and Kana-a Gray, were apparently manufactured over a large part of the Anasazi region including at least portions of the Cibola area (Colton and Hargrave 1937). Ceramic evidence, then, suggests the Cibola area as the region from which Anasazi traits were diffused into the Mogollon area prior to A.D. 1000.
Anasazi architectural features which appear in the Mogollon area prior to A.D. 1000 occur over much of the Anasazi region (Bullard 1962: 99-190), and as a consequence they are of little help in outlining a specific area from which Anasazi traits moved into the Mogollon region. Despite this difficulty, it is worth noting that all of the architectural traits which occur in the Mogollon region, in the pre-A.D. 1000 period, are present in the Cibola portion of the Anasazi area. In other words, at least none of the Anasazi architectural traits found in the Mogollon area argue against the suggestion that the Cibola area was the point of origin of Anasazi traits which occur in the Mogollon area.

Ceramic evidence, then, with some slight support from architectural data, indicates that the Cibola section of the Anasazi area was the point of origin for the Anasazi traits which diffused into the Mogollon region prior to A.D. 1000. Carlson (1961: 8) has recently suggested that the boundaries of the Cibola area should be from Tohatchi, New Mexico on the north to Carrizo wash on the south, and from the continental divide on the east to Petrified Forest National Monument on the west (Fig. 1).
THE DEVELOPMENT OF WESTERN PUEBLO CULTURE

The preceding section of this study suggests that the influences which were to have such a marked effect on Mogollon culture during the post-A.D. 1000 period were already present in the pre-1000 period. During the pre-1000 period, Anasazi and Hohokam influences seem to have been relatively insignificant, however, resulting in the introduction of only a few architectural ideas, a small quantity of trade goods, and an alternative burial pattern, cremation. These traits filtered into the Mogollon area over a long period of time, perhaps by means of infrequent trade contacts which also resulted in the exchange of ideas.

By way of contrast, after A.D. 1000, Anasazi particularly, and to a certain extent Hohokam, influences moved into the Mogollon region at a greatly accelerated rate. This influx of non-Mogollon features resulted in a cultural syncretism, with Mogollon, Anasazi, and Hohokam elements all apparent in the result. This syncretism, defined herein as Western Pueblo culture, forms the subject of discussion for the remainder of this paper. As the present study is centered on the development of Western Pueblo culture, occurrences after A.D. 1300 will not be considered in detail. A general discussion of the extension of Western Pueblo culture on a post-A.D. 1300 level will be found below.
On the basis of differing complexes of archaeological traits, the Western Pueblo region of east-central Arizona and west-central New Mexico can be subdivided into a number of areas (Fig. 2). Four of these areas, Reserve, Point of Pines, Forestdale, and Mimbres, are identical with the Mogollon areas discussed above. Additions to this list, which are necessary to account for the greater spatial extent of the early Western Pueblo development, are all in Arizona. Included are the Northern Sinagua area about Flagstaff (Stanislawski 1964: 1), the Southern Sinagua area in the Verde Valley (Breternitz 1960: 25), and the Salado area encompassing the Roosevelt Basin and adjacent territory to the north (Haury 1945: 205-6).

One additional area, which might have been included in this discussion, has been omitted until an ongoing program of field work succeeds in explaining its somewhat enigmatic position. This is the Vernon area of Arizona, a section of the Little Colorado river drainage, currently being studied by field parties from the Chicago Natural History Museum (Martin and others 1964). A tentative phase sequence has been proposed for the Vernon area (Longacre 1964b: 201-15), which indicates that periods after the introduction of pottery represent a blend of Anasazi and Mogollon traits (Martin and others 1964: 221). The Vernon area is situated near the northern limit of Mogollon development and the southern limit of the Anasazi complex, both in terms of geography and environmental zones. Although this recognition of the
transitional nature of the Vernon area helps to explain the blend of Mogollon and Anasazi elements, it is of little assistance in the assignment of the Vernon area to either the Anasazi or the Western Pueblo groupings.

The complexes of archaeological traits which serve to define the Anasazi Pueblo area to the north and the Western Pueblo area to the south (see above) are not clear-cut in the Vernon area, so it is not easily grouped with either Western or Anasazi Pueblo. A possible solution seems forthcoming, however, as a reconstruction of social forms for the Carter Ranch site (Longacre 1964a: 155-70) suggests that the modern Western Pueblo pattern was in existence in the Vernon area as early as A.D. 1200. This evidence of continuity into the modern Western Pueblos is supported by artifact and architectural similarities between Vernon area sites and the modern Western Pueblos (Martin and others 1964). As will be discussed below, there is a good deal of evidence which suggests that the Western Pueblo archaeological complex was ancestral to the modern Western Pueblos. If this is indeed the case, the Vernon area should be admitted to the Western Pueblo complex. At any rate, future work by Chicago Natural History Museum field parties should do much to provide answers to these questions.

Changes from A.D. 1000 to 1100

The period between 1000 and 1300 in the Reserve and Point of Pines areas has been subdivided into two units (Fig. 2). The earlier of
the two, termed the Reserve phase, extends from 1000 to 1100, while
the sequent Tularosa phase occupies the span from 1100 to roughly
1300. It will be remembered that both the Reserve and the Point of
Pines areas were occupied, until about A.D. 1000, by groups of
Mogollon people who lived in pithouses, produced plain red, brown,
and red-on-brown pottery, and buried their dead in a flexed position,
to name only a few of the more obvious characteristics. During the
Reserve phase, or between A.D. 1000 and 1100, changes occurred
which brought into existence a new and distinct cultural entity known
as Western Pueblo culture. The following summary of Reserve phase
characteristics is offered to emphasize the extent of the changes which
occurred on a post-1000 level.

According to Olson (1959: 478), the Reserve phase centered
in the mountainous country along the Arizona-New Mexico border from
Reserve to Point of Pines and from Springerville on the north to the
headwaters of the Blue river on the south. Within this area, Reserve
phase sites are usually situated on tributaries of the major streams or
on rises above the major river valleys. Typical sites are small pueblos
with from one to 30 rooms. Ceremonial architecture consists of
rectangular rooms with ventilator-deflector-hearth arrangements,
which probably functioned as small kivas, and rectangular great kivas.

Non-ceramic artifacts, for the most part, show continuity
from the antecedent Mogollon culture, although, as will be noted below,
Hohokam trade items are more in evidence. A majority of the pottery has a brown ware paste, and vessels are characterized by an elaborately manipulated exterior surface, with the technique of corrugation especially prominent. Bowls with smudged interiors are common. Most of the painted pottery is black-on-white. At the present time, it is not known whether or not black-on-white pottery was manufactured in the mountainous country of east-central Arizona and west-central New Mexico (Danson 1957: 90). Until this problem is solved, and more definite points of origin can be delineated, it seems better to refer to the black-on-white pottery which occurs in Reserve, and sequent Tularosa phase, sites as Anasazi-derived. Whether the presence of this pottery is a result of trade or of local manufacture is unknown, and for the purpose of the present study, unimportant. What is important is the fact that a majority of this pottery had its inspiration in the Cibola portion of the Anasazi Pueblo area (Anonymous 1958; Danson 1957: 90), and is indicative of significant influence from this region.

To a large extent, the changes which distinguish the Reserve phase from the Mogollon 4 period can be attributed to Anasazi Pueblo and Hohokam influences. It is instructive, therefore, to attempt an identification of Anasazi and Hohokam traits in Reserve phase sites as an indication of the extent of these changes. This is attempted in the following section which summarizes all of the Anasazi and
Hohokam-derived traits in excavated Reserve phase sites in the Point of Pines and Reserve areas.

**Point of Pines Area**

The Reserve phase in the Point of Pines area is known from excavations in four sites, Arizona W:10:56 (Olson 1959: 280-373), Arizona W:10:57 (Olson 1959: 373-98), the Dry Prong site (Olson 1960: 185-204), and the Stove Canyon site (Johnson 1961: 563-7).

At Arizona W:10:56, 24 surface masonry rooms and six subterranean rooms were excavated. The artifact complexes from the various units indicate contemporaneity or near-contemporaneity. One of the pithouses had interior walls of masonry (Olson 1959: 297-8). Anasazi derived pottery types at Arizona W:10:56 include Red Mesa Black-on-white, Puerco Black-on-white, Snowflake Black-on-white, Reserve Black-on-white, Wingate Black-on-red, and unidentified black-on-whites with carbon paint which seem to have affinities with the Flagstaff area (Olson 1959, Fig. 62). The only other artifacts indicating Anasazi affiliations are full-grooved axes (Olson 1959: 337).

Hohokam trade at Arizona W:10:56 is indicated by the presence of Gila Plain and Sacaton Red-on-buff pottery from the Gila Basin and Sacaton Red-on-buff, Safford variety pottery from the Safford valley (Olson 1959, Fig. 62). Other Hohokam items found at Arizona W:10:56 are a Conus ring, a Cardium, carved shell, pendant,
Glycymeris bracelets, an Olivella bead, and shell disc beads (Olson 1959: 352-3). In addition to trade, Hohokam influence of a different type is in evidence at Arizona W:10:56. With the exception of an early, pre-ceramic occurrence of cremation at the Cienega site (Haury 1957: 2-27), the only burial practice in the Point of Pines area prior to the Reserve phase was inhumation (Robinson and Sprague 1965, Table 3). Inhumation was still the common practice during the Reserve phase, but cremation also occurred. Twenty-five inhumations and a single cremation were found at Arizona W:10:56 (Olson 1959: 359-60). The introduction of the practice of cremation into the Point of Pines area during the Reserve phase is believed due to Hohokam influence (Robinson and Sprague 1965: 449-50).

The single structure excavated at Arizona W:10:57 was a rectangular, semi-subterranean, partially masonry-lined, room, identified as a kiva. A ventilator-deflector-hearth arrangement, comparable to similar arrangements in Anasazi kivas was encountered, as was a deep pit which may have functioned as a foot drum (Olson 1959: 373-80). The semi-subterranean kiva was associated with a small, surface masonry, pueblo (Olson 1959: 380-1). Pottery types with Anasazi affiliations at Arizona W:10:57 include Reserve Black-on-white, Snowflake Black-on-white, and Wingate Black-on-red. Hohokam trade is manifested in the presence of Sacaton Red-on-buff, Safford variety pottery and Glycymeris bracelets (Olson 1959: 397, Fig. 74).
The Dry Prong site consisted of a 14 room pueblo, several one and two room, surface masonry, houses, and a great kiva with attached masonry rooms (Olson 1960, Fig. 2). The single Anasazi-derived pottery type at the Dry Prong site was Reserve Black-on-white (Olson 1960: 195). Hohokam traits include Sacaton Red-on-buff, Safford variety pottery and Glycymeris bracelets (Olson 1960: 195, 198).

Reserve phase architectural features at the Stove Canyon site include a small masonry pueblo and a ball court (Johnson 1961: 563-7). The pueblo owes its inspiration to Anasazi influences, while the ball court is apparently derived from the Hohokam area which is the center of Southwestern ball court development. After about A.D. 900, ball courts are found in a number of non-Hohokam areas such as the Flagstaff (Schroeder 1949: 30) and the San Simon regions (Sayles 1945: 32; Wheat 1955, Fig. 12). It has been suggested that the expansion of the ball court into non-Hohokam areas is a manifestation of the spread of Hohokam religious concepts (Johnson 1961: 566-7), a possibility that is strengthened in the Point of Pines area by the introduction of the practice of cremation at this same time (Robinson and Sprague 1965: 449-50).

Reserve Area

The Reserve phase in the area about Reserve, New Mexico is known from excavations in seven sites (Arnold 1941: 256; Martin,
One of the excavated ruins, known as Site 27, consisted of two contiguous rooms, constructed of crude masonry of unworked stones. Artifacts were scarce, and neither Anasazi nor Hohokam items were identifiable in the collection (Arnold 1941: 256). Oak Springs Pueblo was a seven room, L-shaped structure of stone masonry. No Hohokam artifacts were found, but Anasazi, manufactured or inspired, pottery of a type known as Reserve Black-on-white occurred (Martin, Rinaldo, and Antevs 1949, Fig. 71).

Wet Leggett Pueblo had six, irregularly placed, contiguous rooms of masonry, constructed of unshaped boulders held together with mud mortar. Artifacts of Anasazi derivation included Lino Gray, Reserve Black-on-white, and Wingate Black-on-red pottery (Martin and Rinaldo 1950, Table 14), and full-grooved axes (Martin and Rinaldo 1950: 480). Hohokam items at Wet Leggett Pueblo were Glycymeris bracelets (Martin and Rinaldo 1950: 492). Three Pines Pueblo consisted of two architectural units of two masonry rooms each. A rectangular jacal structure was discovered below one of the masonry units, apparently dating to a period just prior to the construction of the masonry houses (Martin and Rinaldo 1950: 432). Anasazi artifacts at Three Pines Pueblo were Lino Gray and Reserve Black-on-white pottery vessels (Martin and Rinaldo 1950, Table 14).
South Leggett Pueblo included four, contiguous, masonry rooms and a fifth masonry room unconnected to the other four (Martin and Rinaldo 1950: 440). Hohokam items were not in association, but Anasazi derived pottery types, Reserve Black-on-white, Wingate Black-on-red, and Lino Gray, were found in the rooms (Martin and Rinaldo 1950, Table 14). The Sawmill site (Bluhm 1957) was an L-shaped pueblo of eight to ten, contiguous, surface masonry rooms and an associated, but not contiguous, semi-subterranean great kiva. The original walls of the great kiva were apparently jacal, although the structure was later remodeled and masonry added (Bluhm 1957: 15-19). Anasazi pottery types at the Sawmill site included Lino Gray, White Mound Black-on-white, Kiatuthlanna Black-on-white, Red Mesa Black-on-white, Puerco Black-on-white, Reserve Black-on-white, and Wingate Black-on-red (Bluhm 1957: 30). Hohokam trade at the Sawmill site is represented by Figure-8 shell beads, shell disc beads, and Glycymeris bracelets (Bluhm 1957: 64-5).

Excavations at the Switchback site (Peckham 1957) disclosed the presence of a Reserve phase, surface masonry, pueblo underlain by pit structures dating to the Three Circle phase, the Three Circle-Reserve phase transition, and to the Reserve phase. The combination of Anasazi and Mogollon architectural features observed at the Switchback site indicates that it was occupied at the time when the change from pithouses to surface structures was occurring. The transitional
nature of the site is especially apparent in Rooms 2 and 3, which have pithouse features, but also share a common, masonry wall (Peckham 1957: 36). In addition to the Anasazi architectural features which occur at the Switchback site, Anasazi pottery is also present. The various types are Kana-a Black-on-white, Kiatuthlanna Black-on-white, Red Mesa Black-on-white, Socorro Black-on-white, Wingate Black-on-red, Reserve Black-on-white, and Tularosa Black-on-white (Peckham 1957, Fig. 8). The Tularosa Black-on-white sherds are believed to represent drift from neighboring Tularosa phase ruins (Peckham 1957: 26).

The preceding summary of identifiable Anasazi Pueblo and Hohokam traits in Reserve phase sites in the Reserve and Point of Pines areas serves to emphasize the changes which occurred during this period. Small pueblos of masonry construction are now a significant part of the architectural complex, although pithouses still continue in use. Anasazi-derived black-on-white and black-on-red pottery has, for the most part, replaced the earlier Mogollon red-on-brown types. Burial customs during the Reserve phase are in a state of flux, as the Mogollon pattern of flexure of the body is replaced by extension. At Point of Pines, the alternative of cremation accompanies extended inhumation as a new feature during the Reserve phase. Changes in agricultural practices also seem to occur during the Reserve phase, as Woodbury (1961: 37) suggests that terraces and field borders first appear
in the Point of Pines region at this time.

As was the case during the Mogollon 4 period, most of the foreign influence during the Reserve phase in the Point of Pines and Reserve areas seems to have come from the Cibola portion of the Anasazi Pueblo area (Fig. 1). This inference is based on the high incidence of Cibola whiteware pottery types which occur in the Point of Pines and Reserve areas. Hohokam influence during the Reserve phase came from both the Gila Basin and the Safford valley regions of Hohokam occupation.

Other Areas

Comparable occurrences are identifiable in a number of the other Western Pueblo areas during the A. D. 1000 to 1100 period (Fig. 2). For the Mimbres area, Danson (1957: 17) has outlined a Mangas phase, which, in part, corresponds to the Reserve phase known to the north. The Mangas phase has been assigned dates of A. D. 1000 to 1050. Mangas phase characteristics attributable to Anasazi Pueblo influences are one to 15 room pueblos with masonry walls, small, rectangular, ceremonial rooms with ventilator-deflector-fireplace arrangements typical of Anasazi kivas, black-on-white pottery, and full-grooved axes. Although Anasazi trade pottery remains to be identified in Mangas phase contexts, the locally made black-on-white types reflect Anasazi influence. Hohokam features, identifiable in
Mangas phase contexts, are cremation (Danson 1957: 17) and pottery designs (Haury 1936a: 22-7).

Marked changes occurred in the Forestdale portion of the Western Pueblo area at this time, changes which are in large part attributable to Anasazi Pueblo influence (Haury 1965, personal communication). In the Flagstaff area, the Northern Sinagua complex, which may represent the fusion of a local Mogollon variant (Colton 1939: 33-44; 1943; Mc.Gregor 1961: 23-7; Reed 1950) with Hohokam features and traits from the Kayenta portion of the Anasazi Pueblo area (Stanislawski 1964: 1-9), had its origin during this period. The Southern Sinagua began to move south from the Flagstaff area to occupy the Verde Valley at this time (Breternitz 1960: 27). Earlier the Verde Valley had been occupied by the Hohokam (Breternitz 1960: 26-8). The only Western Pueblo area not affected at this time was the Roosevelt Basin. Apparently the Salado complex, which was to develop in this area, did not appear until about 1200. It is probable, however, that the antecedents of the Salado complex had their origin in this 1000 to 1100 period, in the, as yet little known, area to the north of the Roosevelt Basin.

Summary

In summary, the period between A. D. 1000 and 1100 in east-central Arizona and west-central New Mexico is one of marked changes.
During this period, the indigenous Mogollon culture changed from a pattern which included pithouse villages, red-on-brown pottery, and flexed inhumation to a pattern characterized by surface masonry pueblos, black-on-white pottery, and extended inhumation. These changes, and others summarized above, are believed due to Anasazi Pueblo and Hohokam influences. In recognition of the significant changes which occurred at this time and of the presence of many of the traits which Reed (1948; 1951; 1956) lists as diagnostic of the Western Pueblo archaeological complex, it is suggested that the temporal limits of the Western Pueblo complex be extended to include the 1000 to 1100 period.

It is probable that no single explanation will account for the increase in Anasazi and Hohokam influences between A. D. 1000 and 1100, which resulted in the cultural syncretism represented in Western Pueblo culture. Possible explanations are a change in attitude on the part of the Mogollon towards a more ready acceptance of foreign ideas, more intimate trade relations after 1000 between the Mogollon, Hohokam, and Anasazi, or perhaps migrations of foreign groups into the Mogollon area after A. D. 1000.

In support of the latter suggestion, it has been noticed that the abandonment of the Anasazi Pueblo portion of the Southwest began even before A. D. 1000 (Jett 1964: 281), and that there seems to be a population increase during the 1000 to 1100 period, at least in the Point of Pines (Woodbury 1961: 42) and Reserve portions (Bluhm 1960: 543-4).
of the Western Pueblo area. The increased Hohokam influence observable during the 1000 to 1100 period may be due to an expansion of Hohokam culture which began as much as 200 years earlier and continued during this period (Arizona State Museum archaeological survey files). This expansion carried Hohokam groups into the Western Pueblo area, such as at Flagstaff (Stanislawski 1964: 3) and along the Gila River in the Safford Valley region (Arizona State Museum archaeological survey files).

**Changes from A. D. 1100 to 1300**

The previous brief outline and Olson's (1959: 464-92) detailed summary of the Reserve phase indicate a good deal of variety in architectural patterns, burial customs, and artifact forms during this phase. The large amount of variability suggests a period of transition from the earlier Mogollon pattern to that of the Western Pueblo, and a period before Western Pueblo characteristics had become crystallized. By way of contrast, Olson's (1959: 464-506) summary of the sequent Tularosa phase (A. D. 1100-1300) suggests that by Tularosa times the cultural syncretism represented in the Western Pueblo complex had been finalized, and that characteristic Western Pueblo patterns had been established. Consequently, a Tularosa phase site has been chosen to exemplify developments in the Western Pueblo area between A. D. 1100 and 1300.
The site chosen as an example is Turkey Creek pueblo (Arizona W:10:78) situated three miles northwest of Point of Pines on the San Carlos Indian Reservation of east-central Arizona. Turkey Creek Pueblo, occupied between 1100 and 1200, was excavated in 1958, 1959, and 1960 as a segment of the activity at the University of Arizona Archaeological Field School. The excavation was supported by a National Science Foundation grant. A technical report has been prepared for publication.

Turkey Creek Pueblo

The major architectural complex at the Turkey Creek site was a large, single-story, pueblo, which included approximately 325 contiguous rooms, two plazas, a great kiva, and two small kivas (Fig. 3). These features covered an area some 80 m. in length on a north-south axis by 75 m. in width on an east-west axis. A shallow swale separated this large complex from a contemporaneously occupied annex situated on a low knoll to the south. About 95% of the large complex was excavated, including all of the ceremonial structures, 314 domiciliary and storage rooms, and one of the plazas. The other plaza was not completely dug, but was outlined with trenches. Portions of five rooms and a plaza were cleared in the south annex. Turkey Creek pueblo corresponds to Reed's (1956: 16) plaza or multiple-court type of layout.
Pueblo rooms could be divided into 168 domiciliary and 146 storage structures on the basis of differences in size and the presence or absence of hearths. Domiciles were larger than storage rooms, and all had hearths. Storage rooms, conversely, were smaller than domiciles and lacked hearths. The most common type of wall construction at Turkey Creek, occurring in 97% of the cases, consisted of horizontal courses of tuff blocks held together with mud mortar and chinked with spalls of tuff. Floors in the pueblo rooms consisted of a layer of mud plaster, which varied from 2 or 3 cm. in thickness to 5 or 6 cm., and was blended into the plaster that coated the walls. Main supports for roofs were large beams, usually of pinon or juniper, which were placed on the tops of the stone walls. Additional support for the beams was occasionally provided by posts set within the room walls. Smaller limbs were placed at right angles to the main beams, and then sticks or reeds at right angles to the limbs. Finally, the entire wooden support was covered with a layer of clay, averaging 15 to 20 cm. in thickness. An opening in the center of the roof served as a hatchway entrance and also as a vent for the fire, which was immediately below the opening.

Floor features included rectangular and circular hearths, occasional metate bins, storage pits, and storage chambers. A few of the rooms were connected by interior doorways, rectangular rather than T-shaped in outline. More common connections between interior
rooms were small, square or circular, openings near the floor, which apparently served as vents to increase air circulation.

The Turkey Creek great kiva was a large rectangular structure, measuring 12 m. on an east-west axis and 16 m. on a north-south axis, situated near the center of the pueblo (Fig. 3). The single entrance to the great kiva was marked by a break in the east wall. The entrance opened into one of the plazas. Floor features in the great kiva included a circular, basin-shaped, fireplace situated immediately in front of the entrance. A second, irregularly shaped, hearth was present in the north-central portion of the kiva. A narrow trench arrangement, measuring 50 cm. in width and depth, was discovered in the central portion of the kiva. Although the trench was in two sections, one L-shaped and the other straight, the placement of the two formed a large U, opening towards the entrance. This trench arrangement is believed to have been covered with wooden boards and to have functioned as a foot drum.

The two small kivas were rectangular rooms, identical in size and shape to the domiciles. They were distinguished from the domiciles by the presence of excavations into native soil which formed benches. Both of the small kivas had vents and hearths, but these features were also present in domiciles and, consequently, did not serve to set the small kivas apart from the normal living quarters. The plazas were large, unroofed areas surrounded by pueblo rooms.
No special features were found in either of the plazas. One of the plazas was entered by a gate between two rooms on the east side of the pueblo. The other plaza was joined to the first by means of a long, narrow hallway along the north side of the great kiva.

Two types of disposal of the dead were practiced by the inhabitants of Turkey Creek pueblo, inhumation and cremation. The former method was, by far, the most common, as will be noted from the fact that 242 inhumations were excavated as opposed to only 25 cremations. The favored places for burial were eight trash mounds that ringed the pueblo, although 50 inhumations were discovered beneath the floors of rooms in the pueblo (Fig. 3). A majority of the below-floor inhumations were either fetuses or infants, while older individuals were usually buried in the trash mounds. This burial pattern suggests status differences, based on an age-grading system, which is undoubtedly related to the type of social structure at Turkey Creek pueblo. Inhumation graves were unelaborate, consisting of oval pits of a size just large enough to accommodate a fully extended body. Of the 183 inhumations for which type of burial could be determined, 167 or 91% were fully extended. Only four of the extended burials rested on their sides; the others were supine. A majority of the inhumations were accompanied by offerings, which were usually pottery vessels or sherds. All of the cremations from Turkey Creek were secondary. Usually, the calcined fragments of bone from the
crematorium were placed in pottery vessels, although a few pit cremations were encountered.

By far, a majority of the pottery from the Turkey Creek site is believed to have been locally made by potters who resided at the pueblo (Fig. 4). Most of it has a brownware paste, probably a result of the utilization of the red-orange, native soil which underlies the site as a major source of materials. All of the locally made pottery was apparently constructed by the coil method. Simple bowl and jar forms are most usual. Exterior surfaces of jars and both interior and exterior surfaces of bowls have been modified in various ways by the use of a number of techniques. The most common of these techniques are indented corrugation, plain corrugation, incising, punching (punctating), smoothing, polishing, slipping, smudging, and painting. The use of these techniques, both individually and in combination, resulted in the production of the distinct types listed below.

- Reserve Plain Corrugated
- McDonald Painted Corrugated
- Reserve Indented Corrugated
- McDonald Patterned Corrugated
- Reserve Incised Corrugated
- Tularosa White-on-red
- Reserve Punched Corrugated
- Tularosa Fillet Rim
- Tularosa Patterned Corrugated
- Tularosa Fillet Rim, White-on-red
- Three Circle Neck Corrugated
- Point of Pines Punctate
- Pine Flat Neck Corrugated
- Plainware
- Obliterated Corrugated
- Redware
Figure 4. Examples of locally made pottery types from Turkey Creek pueblo. a, Reserve Plain Corrugated jar; b-e, Reserve Indented Corrugated bowls; f-g, Reserve Indented Corrugated jars; h, Reserve Indented Corrugated seed jar; i, Tularosa Patterned Corrugated jar. Height of i, 18.6 cm.
In addition to the locally made types which formed the bulk of the pottery at the site, trade pottery was found in some abundance (Fig. 5). Most common among the trade wares were Reserve, Tularosa, and Snowflake Black-on-whites, all types which owe their ultimate derivation to the Cibola portion of the Anasazi region. Many of the other intrusive types also point to an ultimate origin in this area, suggesting that the Cibola area was instrumental in the change from Mogollon to Western Pueblo. All of the intrusive types which occurred at Turkey Creek pueblo are listed below.

<table>
<thead>
<tr>
<th>Reserve Black-on-white</th>
<th>Holbrook Black-on-white</th>
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</thead>
<tbody>
<tr>
<td>Tularosa Black-on-white</td>
<td>Sosi Black-on-white</td>
</tr>
<tr>
<td>Snowflake Black-on-white</td>
<td>Walnut Black-on-white</td>
</tr>
<tr>
<td>Puerco Black-on-red</td>
<td>Flagstaff Black-on-white</td>
</tr>
<tr>
<td>Wingate Black-on-red</td>
<td>Mimbres Black-on-white</td>
</tr>
<tr>
<td>North Plains Black-on-red</td>
<td>Starkweather Smudged Decorated</td>
</tr>
<tr>
<td>Wingate Polychrome</td>
<td>Gila Plain</td>
</tr>
<tr>
<td>St. Johns Polychrome</td>
<td>Encinas Red-on-brown</td>
</tr>
<tr>
<td>Showlow Black-on-red</td>
<td>San Carlos Red-on-brown</td>
</tr>
<tr>
<td>Escavada Black-on-white</td>
<td>Sacaton Red-on-buff, Safford Variety</td>
</tr>
<tr>
<td>Gallup Black-on-white</td>
<td>Casa Grande Red-on-buff, Safford Variety</td>
</tr>
</tbody>
</table>

Ceramic artifacts from Turkey Creek include modeled objects and objects manufactured from sherds. Modeled objects are human
Figure 5. Examples of Anasazi-derived pottery types from Turkey Creek pueblo. a-c, Reserve Black-on-white; d-e, Reserve-Tularosa Black-on-white; g-i, Tularosa Black-on-white.

Diameter of i, 22.7 cm.
and animal figures, spindle whorls, arrowshaft smoothers, miscellaneous smoothers, and a pulley-shaped object, perhaps an ear plug. Sherd artifacts include discs (Fig. 6a), dishes, pendants, and scrapers.

Most of the Turkey Creek projectile points are small triangular forms with concave bases (Fig. 6i). Unnotched and side notched varieties occur. A few, triangular, bifacially chipped blades, and a large number of flake knives (Fig. 6g) were used as cutting tools. Drills of stone have expanded bases and thin, tapering stems (Fig. 6k). The category scrapers includes a variety of forms, with larger examples identifiable as planes (Fig. 7g). Hand choppers were used, as were cutting tools formed from thin plates of stone. The latter objects are often identified as hoes.

Full-trough and basin metates were both used by the inhabitants of Turkey Creek. Metates were ground on with two-hand, unifacial and bifacial manos, and with handstones or one-hand manos. Another type of food grinding implement from Turkey Creek is the stone mortar, used either with a conical or cylindrical stone pestle. Small grinding tools include palettes (Fig. 7a) and stone vessels (Fig. 7e). Common stone artifacts, which may have been used as pestles with the palettes and stone vessels, are stone cylinders (Fig. 7f) and cones. Various miscellaneous grinding tools are present as well as polishing stones.

Axes, of the three-quarter grooved variety (Fig. 7c), are the most common type at Turkey Creek. Many are manufactured from a
Figure 6. Representative small artifacts from Turkey Creek pueblo.

a, perforated sherd disc; b, carved shell pendant; c, Turitella pendant; d, Glycymeris bracelet; e, clay figurine; f, flake knife; g, bone ring; h, stone effigy; i, projectile point; j, expanded-base drill; k, antler flaker; l, bone awl.

Length of l, 18.3 cm.
Figure 7. Representative stone artifacts from Turkey Creek pueblo.

a, palette; b, polishing stone; c, three-quarter grooved axe;
d, shaft smoother; e, stone vessel; f, cylinder; g, scraper.
Length of f, 10.8 cm.
dense, fine-grained, green or black-colored stone. Full grooved axes are present, but in small quantities. Picks are similar to axes, differing in their pointed blades. Mauls were probably multi-purpose tools for use in many chores where a heavy hammer or crusher was necessary. Small, flat plates of sandstone, with one or both edges sharpened are identified as rasps. Stones about the size of the palm of the hand, with one or multiple grooves probably functioned as arrowshaft smoothers (Fig. 7d). Fire hearths are small, rectangular blocks of pumice with conical holes near the edges, apparently to hold the tip of a wooden fire drill.

Anvil stones are large, water-washed, oval rocks with traces of pecking on the faces. Digging tools are elongate stones with battered ends. Stone pipes have conical shapes. The function of a number of stone artifacts cannot be inferred. Included are stone rings, balls, discs, crescents, and troughs. Both large and small anthropomorphic and zoomorphic effigies were made from stone (Fig. 6i). Stone pendants include animal forms, rectangular shapes, conical shapes, and drilled fossils. Other stone ornaments are nose plugs and disc beads. Small rectangular pieces of worked turquoise are from mosaics.

Artifacts were manufactured from bone and antler as well as from pottery and stone. Bone artifacts are awls (Fig. 6m), awl-spatulas, end scrapers, weaving tools, flakers, beamers, rings (Fig. 6h), tubes, whistles, rasps, and pendants. Antler tools are flakers
rubbers, and arrowshaft wrenches.

Shell artifacts from the Turkey Creek site are, with the exception of a few awls and needles, of an ornamental nature. Ornament types represented in the collection are bracelets (Fig. 6d), rings, pendants (Fig. 6b, c), beads, and tinklers. They are believed to represent trade from the River Hohokam of southern Arizona, who were the great shell workers and traders of the prehistoric Southwest (Gladwin and others 1937: 135-53).

The only artifacts of metal from the Turkey Creek site are eight, small, copper bells. Copper bells are well known objects from Southwestern archaeological sites, as over 450 have been recovered from some 62 ruins. Their ultimate origin was undoubtedly Mexico, where they were produced by the lost wax method of casting (Sprague and Signori 1963: 1). To reach the Point of Pines area, the bells may have come through the Hohokam region where they occur more frequently.

Obvious in the Turkey Creek complex are the features listed in the introduction as diagnostics of Western Pueblo culture. Turkey Creek pueblo has the typical Western Pueblo plaza or multiple-court type of layout; rectangular small kivas; a majority of the pottery has a brownware paste; three-quarter grooved axes are common; extended supine inhumation predominates. The two features noted as characteristics of portions of the Western Pueblo area, rectangular great kivas
and cremations, are both present. Although there was no direct evidence for either turkey hunting or keeping in the archaeological record, the practice of hunting can be inferred from the presence of turkey bones and the absence of turkey pens or other traces of their captivity.

On the basis of the occurrence of these diagnostic traits, then, Turkey Creek can be identified as a Western Pueblo site. If Western Pueblo culture truly represents a syncretism of Mogollon, Anasazi, and Hohokam traits, it should be possible to identify features which originated in each of these areas in the Turkey Creek complex. This is, indeed, the case.

Anasazi features identifiable in the Turkey Creek complex include pueblo architecture and black-on-white, black-on-red, and polychrome pottery types. The ultimate derivation of most of these types, and certainly of the ones which occur in greatest quantity, is the Cibola portion of the Anasazi Pueblo area. This suggests that the contacts made by the Point of Pines Mogollon during the pre-1000 period and continued during the Reserve phase, were also maintained for the 1100 to 1300 period. Another Anasazi-derived trait at the Turkey Creek site is the full-grooved stone axe. Three-quarter grooved axes are characteristic of the Mogollon and Hohokam areas, while the full-grooved axe is typical of the Anasazi Pueblo region. The presence of a few full-grooved axes at Turkey Creek, then, probably represents trade with Anasazi groups to the north.
The Hohokam contribution to Western Pueblo cultural development, as exemplified by the Turkey Creek site, is most obvious in the wide variety of Hohokam artifacts which occur in the collection from the site. All of the items are small, easily transportable, and probably represent trade goods. Included are objects of clay such as human figurines, modeled spindle whorls, and a sherd pendant in the form of a stylized bird. The stylized bird is a type that commonly appears in Hohokam pottery designs. Stone artifacts which had their origin in the Hohokam area are palettes, and small pieces of turquoise from turquoise mosaics. The three-quarter grooved axe, which may owe its presence in Western Pueblo sites to an inheritance from the Mogollon, apparently had its ultimate origin in the Hohokam region.

Shell artifacts traded from the Hohokam are of particularly common occurrence at Turkey Creek. Included are Glycymeris awls, needles, and bracelets; Conus rings; whole and carved shell pendants; whole, disc, and figure-8 beads; and Conus tinklers. Copper bells, with an ultimate origin in Mexico, may have filtered through the Hohokam area into the Western Pueblo Turkey Creek site. Hohokam influence, other than trade for material items, is suggested by the presence of 25 cremations at Turkey Creek. As noted above, the practice of cremation, which first occurred in the Point of Pines area during the Reserve phase, is perhaps indicative of the introduction of Hohokam religious concepts.
On the basis of the types of Hohokam pottery which occur at Turkey Creek and on certain other lines of evidence, a suggestion, at least, can be made as to the specific sections of the Hohokam region from which these traits were introduced. One of these types is Gila Plain, the common Hohokam utility type which occurs over most of the Gila Basin region. The presence of this type suggests trade with Hohokam groups dwelling along the Gila river from Florence to Gila Bend. Other Hohokam traits seem to have come from settlements situated along the Gila river between the present towns of Bylas and Safford, Arizona. This portion of the Gila river was apparently not occupied by the Hohokam until about A.D. 1000. By the period between 1100 and 1200 intimate contact between the Point of Pines Western Pueblo settlements and the Bylas-Safford region is indicated. Evidence for this contact comes from recently acquired knowledge of archaeological sites in this region (Arizona State Museum files), which seem to represent a southward extension of the Point of Pines complex. In addition, the Safford varieties of Sacaton and Casa Grande Red-on-buff pottery both occur in the Point of Pines region, pointing to trade with the settlements to the south. Both varieties are present in the ceramic complex from Turkey Creek pueblo.

The Western Pueblo debt to Mogollon culture includes most of the remaining traits in the above summary of features at Turkey Creek pueblo. Especially notable are the wide variety of ceramic and
non-ceramic artifactual forms. Although Anasazi, Mogollon, and Hohokam features are all identifiable in Western Pueblo culture, it should be recognized that something more than Mogollon culture with an overlay of Anasazi and Hohokam traits is represented. Western Pueblo culture is a new and distinct entity.

One of the types of ceremonial architecture which occurred at Turkey Creek pueblo can be cited as an example of the combination of pre-existing traits to form new and distinctive features. The rectangular small kiva is one of the features which Reed (1948: 9) lists as diagnostic of Western Pueblo culture. Two, small, rectangular kivas were present at Turkey Creek pueblo. As noted above, in the discussion of the pre-A.D. 1000 foreign influences on Mogollon culture, this form of ceremonial architecture seems to have its origin in the combination of Mogollon 4 rectangular pithouses and the Anasazi ventilator-deflector-fireplace complex. The common occurrence of this type of structure during Mogollon 4 suggests a domiciliary function, although ceremonial associations are also possible.

During the period between A.D. 1000 and 1100, similar structures, now partially above ground, occur in combination with other rooms which are identifiable as domiciles and storage chambers (Olson 1959: 43-69). These occurrences and the fact that rectangular small kivas never occur in quantity at a site, suggest that a new function, perhaps ceremonial, has been assigned. Support for this interpretation
comes from ethnographic analogy, as rectangular small kivas are known from the Hopi Pueblos and from Zuni (Rinaldo 1964: 93-4). The rectangular small kiva, then, is believed to be a combination of a Mogollon trait, the rectangular pithouse, with an Anasazi trait, the ventilator-deflector-fireplace complex, to form a distinctive Western Pueblo feature.

Other Areas

Turkey Creek pueblo, a Tularosa phase site in the Point of Pines area, has been offered as an example of developments in the Western Pueblo region between A.D. 1100 and 1300. Discussions of comparable occurrences in other portions of the Western Pueblo region would involve a great deal of repetition, and consequently these occurrences will only be noted in passing. Although not yet described in print, the Forestdale situation was apparently quite similar to that at Point of Pines (Haury 1965, personal communication), as was the development in the Reserve area (Olson 1959: 464-506). The Reserve area was apparently abandoned about 1250 (Bluhm 1960: 541) and did not participate in later developments in the Western Pueblo area.

In the Mimbres area, the Mangas phase was followed by the Mimbres phase, characterized by large pueblos with multiple court layouts, rectangular small kivas, black-on-white pottery, and a non-ceramic artifact complex inherited from Mogollon antecedents with
numerous Hohokam additions. During the Mimbres phase, the Mimbres area differed from other Western Pueblo areas in retaining the earlier flexed inhumation pattern. Occasional cremations also occur. The characteristic Mimbres Black-on-white pottery was not manufactured much after A.D. 1200, a fact which has suggested that the Mimbres area was abandoned at this time (Danson 1957: 17-18). Later pottery types have been reported (Arizona State Museum archaeological survey files), however, indicating that occupation may have lasted until a later date. Developments in the Northern and Southern Sinagua areas (Breternitz 1960; Stanislawski 1964) were generally similar, and the Western Pueblo Salado complex had begun to attain a distinction in the Roosevelt Basin (Pomeroy 1962: 70).
THE EXPANSION OF WESTERN PUEBLO CULTURE

Although somewhat beyond the problem orientation of the present study, some mention should be made of the expansion of Western Pueblo culture after A.D. 1300, and of the evidence for continuity from the Western Pueblo archaeological complex into the modern Western Pueblos. Reed (1950) has previously noted the post-A. D. 1300 expansion of Western Pueblo culture, and has called attention to the significant role it played in the later history of the Southwest. He notes an expansion into southern Arizona, into the Rio Grande area, and into the Anasazi Pueblo region of the northern Southwest.

The post-A. D. 1300 expansion of Western Pueblo culture into southern Arizona is the story of the spread of Salado traits and peoples into this region. Significant influence in the Hohokam area has been noted (Haury 1945: 204-13), as well as in southeastern Arizona (Johnson and Thompson 1963: 465-81), and northern Chihuahua, Mexico (Sayles 1936, Table 1). Reed (1950: 132) has suggested that a complex of traits, including glaze-paint redware pottery, square kivas, and fine-polished axes, which occur in the Rio Grande area after A. D. 1300 may be a result of the expansion of Western Pueblo culture. As noted above, the modern Keresan-speaking pueblos of the Rio Grande have a type of social organization which relates them to such Western Pueblos as
the Hopi villages, Zuni, and Acoma. If Reed is correct in relating the presence of the above traits in the Rio Grande to the Western Pueblo expansion, it can be suggested, at least, that the Keresan social pattern also had its origin in this expansion.

Be that as it may, there is ample evidence of the influence of the Western Pueblo archaeological complex in the Anasazi Pueblo area, and in such modern Western Pueblos as the Hopi villages, Zuni, and Acoma. No attempt will be made to provide an exhaustive catalog of the evidence for continuity from the Western Pueblo archaeological complex into the modern Western Pueblos. Rather, a number of the traits which Reed (1948: 1951a; 1956) lists as diagnostic of the Western Pueblo archaeological complex will be used as examples. It should be noted, however, that continuity between the Western Pueblo archaeological complex and the modern Western Pueblos is in evidence in many other cultural features than are listed herein (Rinaldo 1964: 86-98).

An important study which remains to be accomplished is an exhaustive examination of the evidence for continuity. Unfortunately, this will be difficult until additional information is available on the material items of the Western Pueblos, especially for the period immediately preceding the Spanish entrada.

Architectural evidence for continuity between the prehistoric Western Pueblo archaeological complex and the modern Western Pueblos, other than general features such as contiguous rooms and
masonry construction, includes the presence of rectangular small kivas in both. The origin and distribution of the rectangular small kiva in Western Pueblo archaeological complexes was noted above. Its presence in the Hopi villages and at Acoma has been noted by Stubbs (1950: 101-20, Fig. 20), and at Zuni by Cushing (1896: 364).

Reed (1956: 16) has noted that typical Western Pueblo archaeological sites have plaza or multiple-court layouts, in which the rooms face systematically into one or more centers. While this feature is not identifiable in the modern Western Pueblos, probably as a result of Spanish influence (Reed 1956: 16), it is identifiable in Western Pueblo sites occupied just prior to the coming of the Spanish (Reed 1956: 16). This suggests, then, that the plaza or multiple court layout is a feature which would link the prehistoric Western Pueblo complex with the modern Western Pueblos, had Spanish influence not resulted in the imposition of a different type of layout.

Continuities in burial practices, from the Western Pueblo archaeological complex into the modern Western Pueblos, are especially interesting at Zuni. Early sites in the Zuni area are typical of the Anasazi Pueblo region as a whole in their high incidence of flexed inhumation (Stanislawski 1963: 308). During the period between 1300 and 1670 when the historic Zuni pueblo of Hawikuh was abandoned (Hodge 1922: 1), extended inhumations predominate. Extended inhumation is one of the diagnostics which Reed (1948: 9) lists for the Western
Pueblo archaeological complex. An alternative pattern which occurred at Hawikuh (Hodge 1922: 8) was that of cremation. Cremation was prominent in only one portion of the Western Pueblo archaeological region, Point of Pines (Robinson and Sprague 1965: 449-50). The presence of cremation at Hawikuh and at Point of Pines suggests an intimate connection, and perhaps even migration.

Ceramic continuities between the Western Pueblo archaeological complex and the modern Western Pueblos are somewhat less clear than in the case of architectural features or burials. Much of the ceramic history of the Western Pueblo area was dominated by the White Mountain redware tradition (Carlson 1961), which, unfortunately as far as the case for continuity is concerned, was submerged by a brown-on-buff pottery tradition about A.D. 1500. The record for this late period is far from complete, and additional work will be necessary to work out the complete picture. Despite these difficulties, it should be noted that characteristic features of White Mountain redware types do occur on types of the brown-on-buff tradition. In addition to design elements, a characteristic White Mountain redware technique of outlining is present. This technique consists of first applying the outline and then filling in the motif (Carlson 1961: 282-4).

One other trait which Reed (1948: 9) lists as a diagnostic of the Western Pueblo archaeological complex and which occurs in historically occupied Western Pueblo sites is the three-quarter grooved
stone axe. This axe form has been noted at Awatovi (Woodbury 1954, Table 19) where it appears first during Pueblo IV to be used alongside the typical Anasazi Pueblo full-grooved axe. Three-quarter grooved axes are also reported for Hawikuh (Reed 1950: 135).

In summary, several of the traits which Reed (1948; 1951; 1956) lists as diagnostic of the Western Pueblo archaeological complex occur also in the modern Western Pueblos indicating continuity from one into the other. Despite the evidence for continuity, it should be noted that the modern Western Pueblo development cannot be explained as a simple inheritance of traits from the archaeological Western Pueblo complex, but that many other factors have to be taken into consideration. Included are the influences of the Anasazi Pueblo archaeological complex, the Hohokam archaeological complex, Mesoamerican introductions (Stanislawski 1964: 538), and environmental factors, to mention only a few of the influences which have helped shape the present pattern of Western Pueblo culture.
SUMMARY

Archaeological research in east-central Arizona and west-central New Mexico has succeeded in defining a distinctive cultural entity, the Mogollon, which came into existence about A.D. 1 and lasted until A.D. 1000. The 1000 years of Mogollon culture history are characterized by the indigenous evolution of pithouse villages, brownware pottery, and various artifact forms. Flexed inhumation was the characteristic burial type. Foreign influences were relatively insignificant, resulting in the introduction of a few architectural and artifact forms from the Anasazi Pueblo area, and in different artifacts and an alternative method of disposal of the dead, cremation, from the Hohokam area.

After A.D. 1000, Anasazi and Hohokam influences, for an as yet unknown reason, moved into the Mogollon area at a greatly accelerated rate. This intrusion of foreign features resulted in the disappearance of Mogollon culture, and the development of a new entity, Western Pueblo culture. Western Pueblo culture represents a syncretism of Mogollon, Anasazi, and Hohokam elements. Diagnostic traits of the entire Western Pueblo region include the plaza or multiple-court type of pueblo layout, rectangular small kivas, brownware pottery, the three-quarter grooved stone axe, and extended supine inhumation. Rectangular great kivas and the practice of cremation characterize
smaller segments of the Western Pueblo area. The Cibola and Kayenta portions of the Anasazi area were instrumental in the introduction of Anasazi traits into the Mogollon area, during this post-A. D. 1000 period, while the Gila Basin and the Safford Valley areas of Hohokam occupation were responsible for the introduction of other features.

Slightly differing complexes of archaeological traits allow the Western Pueblo region to be subdivided into a number of areas. Included are the Reserve and Mimbres areas in New Mexico, and the Forestdale, Point of Pines, Verde Valley, Flagstaff, and Roosevelt Basin areas in Arizona. Reserve and Point of Pines have been explored more thoroughly than the other areas mentioned above, and consequently they are used to exemplify the development of Western Pueblo culture. Temporal limits for the origin and early development of Western Pueblo culture are from A. D. 1000 to 1300.

In the Reserve and Point of Pines areas, the period between A. D. 1000 and 1300 is subdivided into two units. The first of these, from 1000 to 1100, is the Reserve phase, which is characterized by small masonry pueblos, black-on-white painted pottery, brownware utility pottery, alternative burial patterns, and a non-ceramic artifact complex inherited from the antecedent Mogollon culture. The Reserve phase is the initial taxonomic unit of the Western Pueblo culture in the Reserve and Point of Pines areas. Archaeological trait variability, observable in Reserve phase sites, suggests a period of transition
before Western Pueblo patterns were firmly established.

The sequent Tularosa phase (A.D. 1100-1300) is characterized by a greater degree of internal consistency, indicating that by this time Western Pueblo patterns had become established. As a consequence, a typical Tularosa-phase site was selected to exemplify this segment of the development of the Western Pueblo cultural tradition. The site selected is Turkey Creek pueblo, a large ruin, occupied between A.D. 1100 and 1200, in the Point of Pines area. All of the diagnostic Western Pueblo traits are observable in the Turkey Creek complex, which represents a syncretism of Mogollon, Hohokam, and Anasazi features. Although they are not known in such detail, comparable developments were taking place in other Western Pueblo areas at this time.

After A.D. 1300, and the end of the Tularosa phase, Western Pueblo culture expanded beyond its earlier limits. This expansion carried Western Pueblo traits, and probably peoples, into southern Arizona, northern Chihuahua, Mexico, and into the Anasazi Pueblo region of the northern Southwest. It is believed that this influence can still be detected today in the modern Western Pueblos such as Hopi, Zuni, and Acoma.
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Woodbury, R. B.


Wormington, H. M.
DECLINATION
AND
GRID BEARING
N13°30' E
KEY
- BURIAL (DOT = HEAD)
- CREMATION → CREMATORY PIT
- NUMBERED UNITS = ROOMS
- P = PIT HOUSE  K = KIVA

MASONRY STRUCTURES

EXCAVATED ROOMS

WALLS: ONE SIDE EXCAVATED

UNEXCAVATED ROOMS: WALLS PROJECTED

LIMITS OF EXCAVATION
TRASHMOUND 7
MOUND 4

EXCAVATED ROOMS
WALLS: ONE SIDE EXCAVATED
UNEXCAVATED ROOMS: WALLS PROJECTED
LIMITS OF EXCAVATION
BONDED WALLS
ABUTTED WALLS
UNDERLYING WALLS: EXCAVATED
OVERLYING WALLS: EXCAVATED
PIT STRUCTURES
EXCAVATED

TURKEY CREEK RUIN
ARIZONA W: 10: 78
N CARLOS INDIAN RESERVATION, ARIZONA

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