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CULTURE CHANGE AND THE NAVAJO HOGAN

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CULTURE CHANGE AND THE NAVAJO HOGAN

By

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A dissertation submitted in partial fulfillment of
the requirements for the degree of

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HP7414

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
LIST OF TABLES	
LIST OF ILLUSTRATIONS	
FOREWORD	1
Chapter	
1. INTRODUCTION	9
Theoretical Background	10
Culture History Background	17
Architects and Primitive Architecture--General Background	23
Cultural Anthropologists and Primitive Architecture	36
Archaeologists and Primitive Architecture	41
Navajo Architecture	43
Synopsis of Remaining Chapters	49
2. BACKGROUND OF NAVAJO SITES ARCHAEOLOGY AND THE PROJECT AREAS	51
Introduction	51
Literature Review	51
Introduction to the Project Areas	60
The Defiance Plateau	65
Black Mesa	68
3. DEFIANCE PLATEAU AREA	73
Introduction	73
Background and Environment	73
Settlement and Warfare before 1864	76
The Limbo after Conquest, 1868-1881	95
The Railroad, the Trading Posts, and the Filling of the Land, 1881-1910	97
The End of Semi-Commercial Herding, 1910-1930	102
The Transformation of the Black Creek Valley Economy, 1930-1950	106
Industrialization and Government Expansion, 1950-Present	115
Summary	118

HP7415

Chapter Page

4. BLACK MESA 121

Introduction 121
Background and Information 121
Settlement and Warfare before 1864 123
The Limbo after Conquest, 1868-1881 125
The Railroad, the Trading Posts, and the Filling of the Land, 1881-1910 126
The End of Semi-Commercial Herding, 1910-1930 130
The Transformation of the Black Mesa Economy, 1930-1950 . . 133
Industrialization and Government Expansion, 1950-Present . 139
Summary 145

5. THE EVOLUTION OF HOGAN CONSTRUCTION ON BLACK MESA AND THE DEFIANCE PLATEAU 147

Introduction 147
Background to the Analysis 147
The Analysis 157
Defiance Plateau 163
Black Mesa 166
Defiance Plateau 173
Black Mesa 194
Conclusions . . . . . .

6. CONCLUSIONS 218

REFERENCES 227

APPENDIX

I. DEFIANCE PLATEAU HOGAN DATA 247

II. BLACK MESA ARCHAEOLOGICAL RESEARCH PROJECT HOGAN DATA 293

HP7416

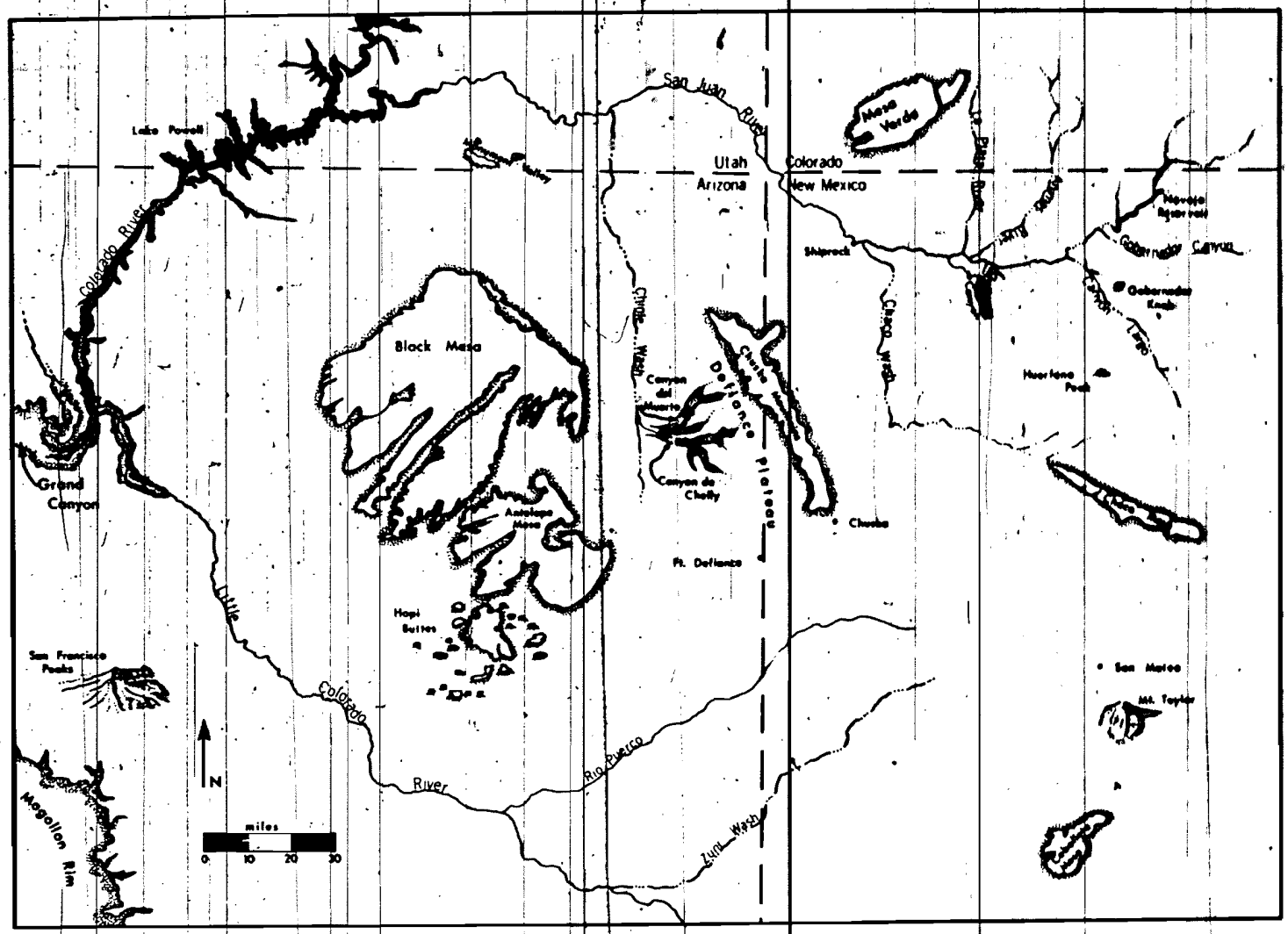

Figure 1. Black Mesa, Defiance Plateau and Environs.

HP7417

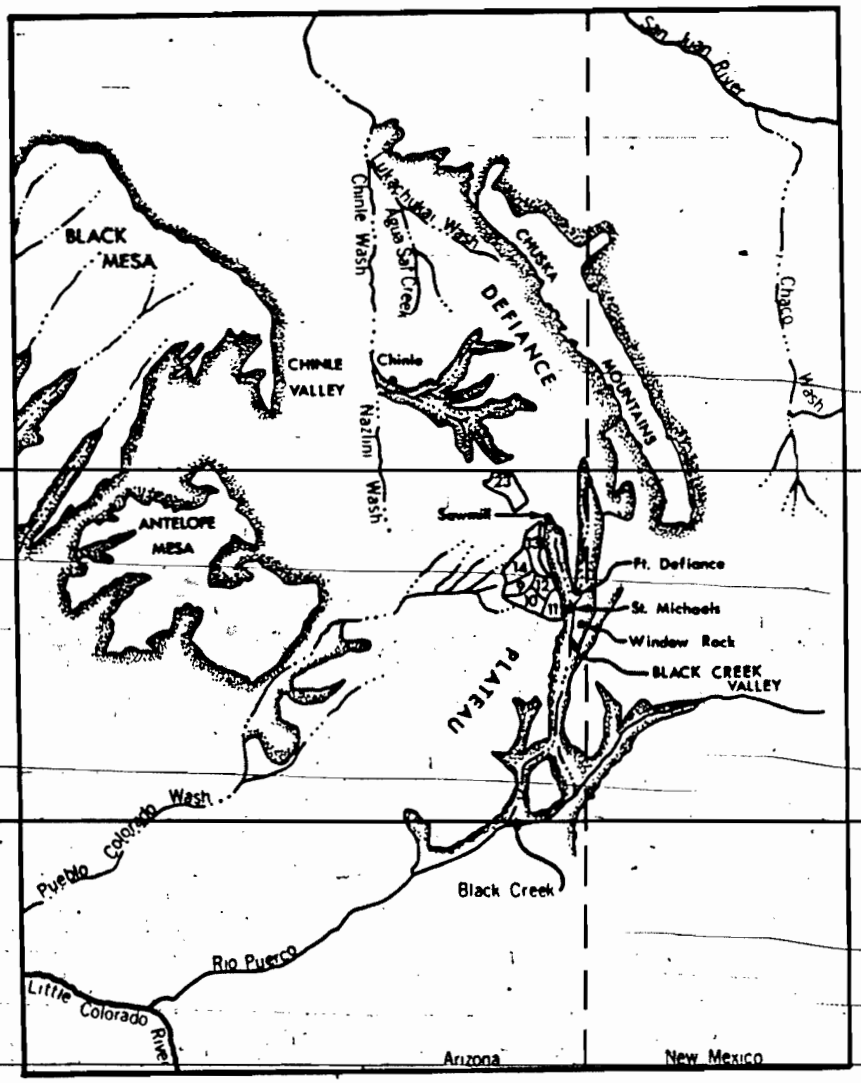

Figure 2. Defiance Plateau and surrounding area (project area shown in numbered compartments).

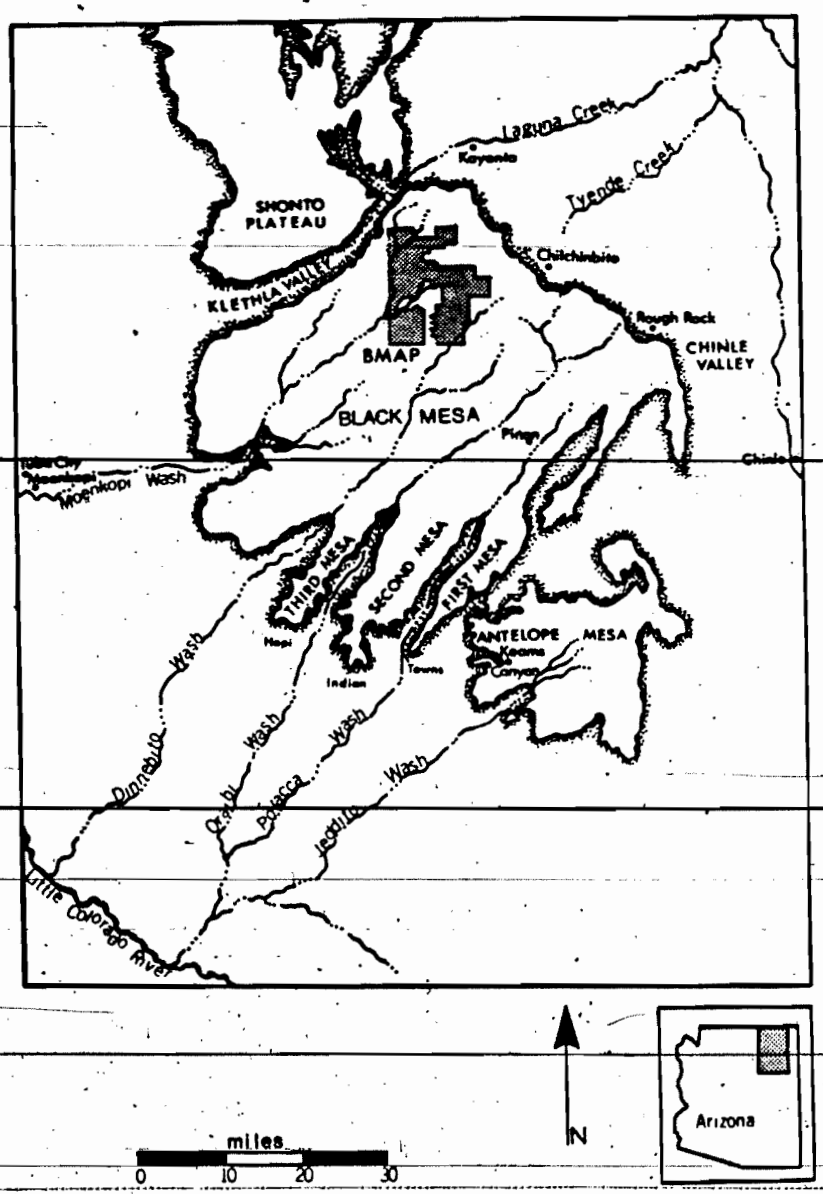

Figure 3. Black Mesa and surrounding area.

HP7419

Fieldwork for the Piney Hill compartments 12, 13, and 14, was carried out in the fall of 1981 (Kemrer, Lord, Heinsch, and Brancard 1981b). Mapping, ethnographic research (by Dennis Yazzie), photography, and collection of tree-ring samples were all undertaken by ESCA-Tech personnel much as they had been on the Summit Pine Project, and the site information recorded was parallel with the same categories included on the forms.

The fieldwork for the Canyon Rim timber sale was conducted in 1982 (Brancard, Lord, Kemrer, Cella, and Roberts 1983). Again, ethnographic interviews (conducted by Dennis Yazzie) supplemented the archaeological fieldwork. The procedures for mapping, collection, photography, and tree-ring samples followed the guidelines set up in the Summit Pine surveys. The site forms also required information on the same categories as before.

The hogan data from these projects were obtained from the Interim and Final reports submitted by ESCA-Tech and Chambers Consultants to the Navajo Tribe. Every hogan recorded by field personnel on these projects was used in the present analysis; no sample was taken from their records. One or more hogans from each of over 100 sites is included in this study. There are many more sites in these compartments that are not mentioned because they did not have hogans.

Black Mesa

The remote nature of Black Mesa was shattered in the early 1950s when the Peabody Coal Company of St. Louis negotiated a contract with the Bureau of Indian Affairs and Navajo and Hopi tribes to lease 256 km^2 of land, rich in coal, on northern Black Mesa, Arizona. Powell, Andrews, Nichols, and Smiley (1983:230) note that Peabody negotiated this lease in ignorance of the existing historic preservation legislation. Thus, they were taken

HP7420

aback to find that one of the stipulations of the lease agreement with the BIA was the identification of cultural resources and the evaluation and mitigation of the possible impacts on these resources. Nonetheless, Peabody set out to find an archaeologist who would enable them to fulfill their obligations.

Dr. Robert C. Euler, then of Prescott College, Prescott, Arizona was contacted and what was to become the Black Mesa Archaeological Project (BMAP) was established. The first full field season was in 1968, and the last full field season was in 1983. Data on Navajo or historic sites were collected throughout this period. Obviously, as with any long term project, techniques of data collection were refined, and areas of particular research interest changed through time. Thus, the data collected on historic sites, for the first few years are less complete than those collected later.

During the field seasons in the late 1960s and throughout the 1970s, the main emphasis of BMAP was Anasazi sites. In fact, this was largely true throughout the Southwest. In only a few cases were people recording Navajo sites, and in many of these instances, the sole objective of the research project was to record data on historic sites. Generally, on projects where Anasazi sites were recorded, Navajo sites archaeology played a minor role.

Although substantial data were not collected on Navajo sites during the 1970s, nonetheless BMAP gathered information such as site location, number and kind of structures, type of building material, size of site and structures, and probable function and date of sites. In addition many tree-ring samples were taken under the supervision of Dr. Jeffrey S. Dean from the Laboratory of Tree Ring Research, the University of Arizona.

By 1979 and certainly by 1980, BMAP recognized the importance of the Navajo sites on Black Mesa and the project emphasized extensive and

HP7421

intensive recording of these sites. A majority of the historic sites recorded in the 1970s were revisited in the 1980-1983 field seasons and thoroughly recorded, mapped and collected. Many of the previously recorded historic sites had unfortunately been destroyed by Peabody mining activities, including road building, strip mining, and bulldozing; of course, a small percentage of the sites could not be relocated due to recording error.

The Black Mesa historic sites information is comparable to, yet different from, the historic sites information from the Defiance Plateau. For one thing BMAP had 15 seasons in the field in essentially the same area, and thus the researchers had the luxury of being able to refine their forms as they worked with the data. Therefore, if it seems that the Black Mesa data were much better collected and are more thorough than those of the Defiance Plateau it must be kept in mind that the Black Mesa staff were continually refining their methods of collection and their forms to keep pace with new research interests.

A review of all of the site and structure forms recorded by BMAP revealed the general sequence of interest in Navajo sites. The first field season of the Black Mesa Project was in 1968. During this season there was some haphazard recording of historic sites, mostly sites that field workers thought were exciting because they were well preserved, or were sweathouses, or generally seemed unusual. The forms, designed for Anasazi sites, were woefully inadequate because historic sites did not, at the time, appear to have the same cultural significance.

This attitude toward historic sites prevailed until around 1975, when survey crews became more systematic about recording them. Nonetheless they were being recorded as small sites on the same forms as small lithic or sherd scatters, and the quality of the data varied with the recorder. While

HP7422

There is one very early log cabin, dating before 1864. After this, log cabins do not appear until the 1890s whereupon they gradually increase in popularity until 1960. The other structures in these compartments were unidentifiable as habitation structures.

Thus the hogans on the Defiance Plateau do not exhibit a great variety of style. There are three major classes of hogan or domestic structure: forked stick hogans, cribbed log hogans, and log cabins. Stone and masonry hogans, while present, are far less popular forms.

Table 3 illustrates that doorway orientation remains the same throughout the entire time span. The preference is for east facing doorways or slight variations thereof, depending, no doubt, on the season and position of the sun in the sky, when the structures were built (Kemrer 1974:40-49).

Table 4 illustrates that the size of the structures remains much the same through time. There appears to be an increase in size during the decade from 1910 to 1919, but this may be a function of the fact that only two hogans from this decade were recorded, one unusually large with a diameter of 8.4 meters, and the other quite small with a diameter of 2.5 meters.

The presence or absence of axe-cut, or saw-cut wood was not usually recorded in this area. However, Table 5 illustrates, from the available information (Appendices I and II), the chronology of tool use on the Defiance Plateau.

Black Mesa

A total of 544 hogans, houses, and other possible habitation structures from the Eastern and Western Lease areas of the Peabody Coal Company on Black Mesa, was recorded. From 1981 on, the information collected on

HP7423

Table 3. Doorway Orientation

Date	Defiance Plateau						Black Mesa					
	NE	E	SE	S	W	N	NE	E	SE	S	W	N
pre-1864	1	6	1	0	0	0	1	5	2	0	1	0
1864-1869	1	1	2	0	0	0	1	0	1	0	0	0
1870-1879	0	2	2	0	0	0	2	3	3	0	0	0
1880-1889	1	0	1	0	0	0	1	8	2	0	0	0
1890-1899	3	6	1	1	0	0	3	10	3	0	0	0
1900-1909	2	6	4	1	0	0	0	5	0	0	0	0
1910-1919	0	1	2	0	0	0	3	13	6	0	0	0
1920-1929	0	0	2	0	0	0	1	18	5	1	0	0
1930-1939	3	2	2	0	0	0	3	17	1	0	0	0
1940-1949	0	3	4	0	0	0	1	18	6	0	0	0
1950-1959	1	5	2	0	0	0	1	9	5	0	0	0
1960-1969	0	0	0	0	0	0	0	2	0	0	0	0
1970-1979	0	0	2	0	0	0	0	0	0	0	0	0
1980-*	0	1	0	0	0	0	0	5	0	2	0	0
Total . . .	12	33	24	2	0	0	17	113	34	3	2	1

*NOTE: Most of these structures were occupied, thus the information is incomplete. This note applies only to Black Mesa 1980.

HP7424

Table 4. Average Hogan Diameter, by Decade, for the Defiance Plateau and Black Mesa Project Areas

Date	Average Diameter in Meters			
	Defiance Plateau		Black Mesa	
	Size	No.	Size	No.
pre-1864	4.66	8	4.46	14
1864-1869	4.90	3	4.40	3
1870-1879	4.50	8	4.10	10
1880-1889	4.20	5	4.36	22
1890-1899	4.64	14	4.60	23
1900-1909	4.14	15	5.37	9
1910-1919	5.40	2	4.81	34
1920-1929	4.70	8	5.30	41
1930-1939	4.50	10	4.83	43
1940-1949	4.30	5	4.96	40
1950-1959	4.82	7	4.99	20
1960-1969	0.00	0	5.55	3
1970-1979	3.50	2	0.00	0
1980-	4.50	1	7.50	2
Total . . . . . (average size)	4.19	87	5.02	264

HP7425

Table 5. Number of Structures from the Defiance Plateau and Black Mesa that Exhibit Modification of Log Ends

Date	Defiance Plateau				Black Mesa			
	Broken/ Burnt	Axe-cut	Saw-cut	Milled	Broken/ Burnt	Axe-cut	Saw-cut	Milled
pre-1864	13	12	0	0	11	12	0	0
1864-1869	3	3	0	0	3	3	0	0
1870-1879	9	11	0	0	9	11	0	0
1880-1889	16	21	0	0	14	17	0	0
1890-1899	16	22	0	1	13	23	0	0
1900-1909	2	5	0	0	2	5	0	0
1910-1919	17	31	1	2	21	30	0	2
1920-1929	20	39	0	1	20	38	0	1
1930-1939	18	36	4	2	23	36	3	2
1940-1949	12	36	4	9	19	35	5	5
1950-1959	5	20	3	14	13	23	2	13
1960-1969	0	3	1	2	0	3	2	3
1970-1979	0	0	0	0	0	0	0	0
1980-*	0	2	3	7	0	3	3	5

*NOTE: Most of these structures were occupied, thus the information is incomplete. This note applies only to Black Mesa 1980.

HP7426

Navajo sites was fairly well standardized, however, prior to that time, recording was less systematic. Although sites from the 1967-1980 field seasons are included here, the bulk of the data are from sites recorded from 1981-1983.

The Black Mesa site forms included information on the variables mentioned in the above section. The only real problem with the Black Mesa data was that so many structures were unidentifiable because only the hogan rings remain and so many of them could not be dated. Nonetheless, there are a large number of structures that provide an interesting contrast to the Defiance Plateau sequence.

Table 6 presents the data on the 544 hogans and other habitation structures from Black Mesa. The table is in chronological order and shows the evolution of hogan styles and construction techniques. This table can be compared with Table 2 covering similar information for the Defiance Plateau.

The period of heaviest occupation on Black Mesa, represented by numbers of structures, is from 1910 to 1950; this is followed by a decline in absolute numbers of structures, with an increase in the 1980s. Fourteen pre-1864 structures provide evidence for Navajo occupation of Black Mesa prior to Fort Sumner, and the three structures from the Fort Sumner period lend support to the contention that Black Mesa was one of the areas that served as a refuge from incarceration.

In terms of hogan styles, the forked stick hogan initially predominates until approximately 1880, whereupon there is an increase in the number of cribbed hogans. Forked stick hogans disappear from this record by 1940, but cribbed hogans are present throughout the entire time span. The corbeled hogan, not present at all on the Defiance Plateau, is evident

HP7427

Table 6. Chronology of Habitation Structure Chronology on Black Mesa

Date	Forked Stick		Cribbed Hogan		Corbeled Hogan		Stone House		Many Legs Hogan		Log Cabin		Palisaded House		Church, Trailers, Masonry/Cement Hogans or House, or Frame House		Total Structures		Unidentifiable
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
pre-1864	8	61.5	4	30.8	1	7.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	13	100.0	1
1864-1869	1	33.3	2	66.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	100.0	0
1870-1879	6	66.7	3	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	100.0	2
1880-1889	4	23.5	10	58.8	3	17.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	17	100.0	7
1890-1899	6	46.2	6	46.2	1	7.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	13	100.0	11
1900-1909	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	100.0	7
1910-1919	3	13.0	17	73.9	0	0.0	2	8.7	1	4.4	0	0.0	0	0.0	0	0.0	23	100.0	22
1920-1929	1	6.7	9	60.0	3	20.0	0	0.0	2	13.3	0	0.0	0	0.0	0	0.0	15	100.0	35
1930-1939	2	10.0	9	45.0	3	15.0	0	0.0	5	25.0	0	0.0	1	5.0	0	0.0	20	100.0	27
1940-1949	0	0.0	12	70.5	1	5.9	0	0.0	2	11.8	2	11.8	0	0.0	0	0.0	17	100.0	32
1950-1959	0	0.0	3	37.5	2	25.0	0	0.0	1	12.5	1	12.5	0	0.0	1	12.5	8	100.0	16
1960-1969	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	2	100.0	1
1970-1979	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
1980-	0	0.0	3	7.7	0	0.0	3	7.7	0	0.0	5	12.8	0	0.0	28	71.8	39	100.0	8
Total	33	18.1	80	44.0	14	7.7	5	2.8	11	6.0	8	4.4	2	1.1	29	15.9	182	100.0	169
No date	22		52		15		0		3		2		0		0		94		109

NOTE: N = 544 (182 dated, identified structures; 203 undated structures; 169 unidentified structures).

HP7428

throughout the Black Mesa record, in small numbers, until 1960. The many legs hogan, also not present on the Defiance Plateau, is found on Black Mesa from 1910 through the 1950s, with greatest popularity during the 1920s and 1930s. The log cabin, an extremely popular form throughout the Defiance Plateau sequence, is present only in small numbers on Black Mesa until the 1980s. In the 1910s, two stone houses were built; this form does not reappear until the 1980s. Also in the 1980s, there is a great proliferation of habitation structures including trailers, frame houses, and masonry/cement structures; there is also a church from this period. There are two palisaded houses, one from the 1930s and the other from the 1960s.

Thus, it is apparent that there is a wide range of hogan styles in the Black Mesa study area. Additionally, hogans are the preferred habitation structure until the 1980s, when for the first time non-hogan structures are the most popular.

As Table 3 illustrates, doorway orientation remains the same throughout the entire occupation. With three scattered exceptions (possibly due to field error), the doorways all face east, southeast, or northeast until the 1980s. The variations on east, as mentioned before, relate to whether the hogan was built in the spring or fall.

Table 4 shows that the size of the structures varies only slightly through time with a very general tendency toward larger structures. The reason for the large size of the two hogans from the 1980s is not clear. Unfortunately, the sample is too small to determine whether these structures are for ceremonies, are anomalous, or are standard size.

Presence or absence of axecut or sawn wood was one of the standard categories recorded on the mesa as illustrated in Table 5. These

HP7429

observations were made on the basis of presence or absence of a particular attribute, thus one structure could have axe-cut wood, saw-cut wood, and milled lumber. Axe-cut wood is present in significant proportions throughout the entire occupation, but saw-cut wood does not appear until the 1910s and then, not in any significant amount. This may, in part, be a function of the fact that so many hogans on Black Mesa are dismantled and rebuilt elsewhere, and saw-cut wood was probably highly curated. Commercial or milled lumber appears in the 1910s, but not with regularity and in significant numbers until the 1940s.

The above two sections have been a synthesis and brief review of the Defiance Plateau and Black Mesa hogan data. The following two sections are a detailed analysis of the data and an interpretation of them in light of the previous ethnohistoric information. The emphasis is on the degree to which the steps of the acculturation process can be determined from the combined architectural, archaeological, ethnographic, and ethnohistoric information. The analysis takes the form of a decade by decade summary of hogan construction viewed as a response to changing cultural conditions, first in the Defiance Plateau area and then for the Black Mesa area.

Defiance Plateau

Pre-1864

Of a total of 32 structures from this time period, 21 are undatable, collapsed sandstone structures; they are assumed to be Navajo, but their cultural affiliation is unknown and they are unlike any of the other Navajo structures on the Plateau. Of the remaining 11 structures, 8 are forked stick hogans, 2 are cribbed hogans, and 1 is a log cabin. One of the forked stick hogans is well dated to the 1850s; the others do not have

HP7430