NAVAHO ECONOMIC CHANGE

by

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ABSTRACT

Navaho Economic Change
Paul W. Kolp
Submitted to the Department of City and Regional Planning on March 19, 1965 in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

The research is concerned with Navaho economic change, specifically the influence of location, achievement motivation, education and value orientations on economic behavior. Navaho men who had migrated to an urban center, and Navaho men living near and relatively distant from an urban center were studied. Also, a very small group of Navaho businessmen were interviewed.

Achievement motivation evidently was important in determining who migrated to the city where the highest incomes were earned; who became businessmen and acquired skilled jobs; who living near the city took advantage of urban job opportunities; who in the area distant from the city ranged farthest for jobs; who took vigorous action in seeking jobs; and which non-urban men tended to have the highest per capita family incomes. Education was a significant factor in determining who came to the city and stayed as permanent residents—education prepared them for urban living; who obtained higher status jobs particularly in the professional category; and who within the city and more distant area received the highest incomes. The city furnished job opportunities, often above the status of laborer, for men living in or near the city. For those near the city, jobs were provided in the urban center for men with high achievement motivation, and since the city was a focus for employment offices offering jobs in the larger economy others also found work. Therefore, men living in the city earned the highest incomes, and those near the city earned substantially more money than men farther from the city, although there were negligible differences in education and achievement motivation between these two rural groups.

Achievement motivation and years of education were positively correlated and this relationship was statistically significant. But level of education apparently was to a large extent dependent on achievement motivation: those with higher levels of achievement motivation frequently ran away to school at an early age or appeared to come out of Navaho families conducive to the development of high achievement motivation and were directed toward education; and it was men with higher levels of achievement motivation who made use of any training they had received and continued their education and proceeded to learn trades after ending their formal schooling. Also, this positive relationship between achievement motivation and education evidently was strongly influenced by early family life. Certain families tended to produce more physically mobile male offspring, a characteristic of men with high achievement motivation. Men who grew up in families where the father was absent, or where the father had no firm continuing occupation in either the Navaho or non-Navaho society, were significantly below the median level in achievement motivation and education. On the other hand, where the father had a high status occupation, one valued historically in the Navaho society or one of non-traditional (modern) importance in the non-Navaho society, men were significantly above the median in achievement motivation and education. Men from these families were eager to succeed in school early in life, or were urged to do so by their parents. Direct contact with the non-Navaho city or Christianity apparently did not influence these variables noticeably. However, the actual mechanism whereby a high level of achievement motivation or a value for education is internalized within the family setting is unexplained, although suggestions of how this might occur are presented. And an analysis of the role of education in English speaking schools
in internalizing these factors is absent, though circumstantial evidence indicates that the family setting is more important.

While personality characteristics and education were determinants of economic behavior, Navahos were disposed toward taking advantage of economic opportunities. And while the urban migrants overcame obstacles and took risks to participate in the urban economy they generally did not move directly from the rural Reservation to an urban center. Rather, they became accustomed to living in the non-Navaho world through other means when possible, thereby avoiding unnecessary risk. In addition, the process of Navaho economic change becomes more understandable when certain aspects of their social life and history of contact with non-Navahos are considered. From this discussion and prior information, notably that economic transition was originating within the mainstream of Navaho social life, various conjectures concerning generalized models of economic change are presented.

Considering value orientations it is suggested that value preferences tended to adapt to existing circumstances rather than determining action. However, in the time orientation area certain value preferences did appear to influence behavior. In planning, philosophy of life, and expectations for change a "Past" time orientation was definitely absent among urban migrants. Also, urban migrants apparently knew how to handle the urban work situation. On the other hand, businessmen tended to be oriented toward the "Future" in planning and philosophy of life, and to be "Individualistic" in approaching family work problems. Regarding traditional value orientations, these evidently provide few constraints to economic growth or change, except perhaps when considering entrepreneurial activities. However, a traditional valuation for industriousness has been an asset in this growth. Finally, Navaho value orientations seem to be moving closer to American value orientations. But no particular community has changed at a more rapid pace. Here again the direct role of a non-Navaho urban center on influencing social and psychological changes generally was limited.

Among a small group of businessmen a lack of capital was a severe constraint to the development of business enterprises. This obstacle could be decreased by repealing undue restrictions imposed by the Government and Navaho Tribe. Nevertheless, this obstacle was overcome by the saving of family resources and by using the nuclear and extended family for starting and operating the enterprise. Also, the men behind these activities had particular types of personalities necessary in overcoming constraints of development.

The future prospects for Navaho economic growth and development appear bright, especially if the Navaho area can recover some of the human resources that have left the Reservation while concurrently usurping the parasitic functions of nearby American cities. Economic opportunities are numerous, and if Navaho leaders will coalesce they can provide the necessary guidance for the next stage of economic growth which could be even more rapid than in the recent past.
PREFACE

This research tests a number of hypotheses related to Navaho economic behavior. Considerable theorizing has occurred concerning the transition of economically underdeveloped societies into more prosperous modern societies. Unfortunately these generalizations are frequently presented without sufficient empirical testing. Navahos are currently experiencing a period of economic change and this research attempts to provide a clearer understanding of this process by investigating who in Navaho society is changing to modern economic activities and prospering. For if the economy is changing individual Navahos should be the visible instigators or vectors of this transition. Therefore, individuals are the focus of the inquiry, but they are chosen within specific groups or locations with a view toward testing a variety of contemporary hypotheses regarding economic transformation.

A project of this nature requires the assistance of many people and the author is indebted to these people for their unselfish help. The list is very long and unfortunately all cannot be named here. First, the most gratitude is owed to the Navahos who willingly took time from their daily activities to participate in the study. To Margaret Jose and Albert Sandoval, Jr., for their patient and understanding interpreting, special thanks is due. Their warmth and friendliness, in the Navaho tradition, provided a constant
source of enjoyment during the many hours of field work.

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Finally, to my wife, Roberta, who has not always agreed with my approach, but who has been responsible for many provocative discussions and ideas, and who has volunteered many hours which could have been spent on her own work, a warm thank you.

Omissions and errors belong wholly to the author.
CHAPTER 1
INTRODUCTION

In recent decades the process of economic growth has received renewed attention. By reviewing a few of the modern postulates a basis will be provided for deriving hypotheses concerning the process of economic growth and change to be tested in a society undergoing transition.

Review of Economic Growth Hypotheses

Capital accumulation is the factor most widely associated with theories of economic development and growth. Several variations of this theory are available. One proposition is that because of low income in underdeveloped economies the capacity to save is small. Coupled with this is the fact that an inadequate level of demand exists to induce investment for increasing production and income. Taken together this means that the less developed economies remain perpetually underdeveloped. And the conclusion reached is that to break out of these vicious circles of poverty on both sides of the spectrum requires a synchronized application of capital to a variety of industries.¹ A variant of this hypothesis is the argument for the "Big Push." This thesis postulates that low income areas are poor because they cannot provide the large "lump" of investment necessary for large projects (e.g., power and transportation facilities) serving many industries, thereby providing a basis for the stimulation and growth of
other projects and industries. Other concurring arguments include several general theories emphasizing capital formation as the most important element in economic growth.

At one time the availability of natural resources was considered an important determinant of economic development. Presently this argument appears less significant, especially since an increasing rate of resource discovery is now considered essential for economic expansion and not just resource discovery itself. The importance of natural resources lies in their potential substitutability for nonexisting physical capital early in the growth cycle.

However, in the past few years an interesting swing in emphasis toward the human elements in economic growth, away from the alleged non-human capital and material resource components, has occurred. Especially convincing is evidence from United States economic growth, although most statistics derive from relatively recent history. Many studies have presented data for several time periods, varying from a few decades to almost a century in length and all ending at about 1950, showing that a predominant share of the increase in United States productivity is not attributable to capital formation. Rather, they estimate that anywhere from sixty to ninety percent of the increase in economic output during various time periods can be traced to the improved quality of inputs. Presumably this growth in productivity is attributable to technical progress which has accrued through
investments in man resulting in improvements in his capacities and effectiveness. Therefore, human resources and not material resources may be the most influential elements in economic growth. Even Galbraith, who believes the causes of poverty are multiple, is led to the one generalization that economic improvement is not possible without liberated and educated people.

These arguments for increased productivity stemming from investments in research, training, education, health, and similar items are persuasive. But these do not represent all of the reasons for emphasizing the importance of human elements in economic growth. Some authors contend, with substantial evidence, that a particular type of personality (measured primarily in terms of motives and values) is required among a significant number of individuals in a society before widespread economic growth can take place. In these conceptual models psychological, cultural, and social factors play a principal part in economic growth—the source of economic change is to be found in human behavior and the problem is one of tracing the elements which go into producing certain types of behavior. From this brief review, it is evident that the quality of human resources at many levels may determine the rate and direction of economic development.

Other factors considered in analyses of causes of economic growth are the role of government and the political structure. In many countries the government is a force for
change and economic growth. Also, some degree of political stability and security of resources is invariably necessary for economic expansion. And, finally, the degree of national unity which can be generated represents a potentially powerful impetus to economic growth. The government and political structure, though, could be viewed as human aspects of economic growth since their institutional composition is fundamentally a reflection of a people's social organization.

On the other hand, the amount or power sometimes invested in a small group within the political or governmental structure, and the force this group can apply for change, imply that such factors should be analyzed separately when seeking explanations for economic growth.

Many contemporary factors associated with economic growth theory have been considered. These have dealt primarily with material and human resources. However, research indicates that certain locations are particularly capable of stimulating economic growth largely because these material and human resources tend to be distributed unevenly over space. It is within and near cities, generally, where the greatest concentration of capital takes place, where an inordinate percentage of the available jobs exist; where a vast, relatively efficient, market is located for products originating inside and outside of the city; and where the largest supply of money accumulates for financing capital investment in productive facilities. It is primarily for these reasons
that the growth of an economy, according to T. W. Schultz, takes place in a locational matrix which is principally industrial-urban in context. Empirical investigations, chiefly in Southern agricultural areas of the United States, corroborates this hypothesis. They show that the significantly higher prosperity of those farm areas near urban centers is a function of their location.

There are, in addition, less direct ways cities may assist economic growth. The gathering of numerous people and activities in a city represents a force for change, and it usually cannot exist unnoticed in a society with an underdeveloped economy where such a force is historically absent. It is through urban centers that new ideas or ways of doing things can be introduced into an underdeveloped economy. The city is a crucial area for adapting new technologies and social institutions; and the urban culture can be instrumental in changing values and beliefs constraining the economic growth of a society. Not only can cities provide opportunities for formal and non-formal education and training, but cities might also be a primary force in instigating personality and cultural change conducive to economic growth.

Locational aspects of economic growth could properly be analyzed as an independent variable. But it is clear from the foregoing discussion that a relationship exists between location and the quantity or quality of capital and human resources present. That is, these resources are not evenly
distributed over space, rather they occur more often in particular locations and in conjunction with one another. The fact that relatively little is known about the interaction among these and the other variables discussed, or the degree to which these variables are in fact related to economic change and growth in various societies, lies at the core of the problem. However, from this brief review of economic growth theory several conclusions emerge: 1) that human elements may play an extremely important role in any theory concerning economic growth, whereas material resources in the form of capital and natural resources may be less important than formerly thought; and, 2) that urban centers can have a substantial influence on economic growth both indirectly by affecting human resources and directly by providing relatively efficient labor, product, and capital markets. These two variables, location and human resources, therefore, furnish a framework for formulating hypotheses related to economic change and growth to be tested in a society where the rise in per capita income has been recent and rapid.

Study Area and Problem Formulation

Several groups of Navaho Indians living in the southwestern United States (maps of the Reservation and adjacent area appear on pages 31 and 32) were studied in an attempt to test hypotheses dealing with economic and social change. Navahos were chosen for this study primarily for three reasons.
The most conspicuous one is that growth of income is occurring, and apparently this has been almost wholly within the past several decades. Prior to 1940 Navahos were virtually isolated from the larger American economy, and income from all sources was estimated during 1940 at about $80 per capita per year. However, much of this income was never received in cash, since credit was widely used by traders when purchasing Navaho agricultural commodities, largely sheep, or arts and crafts items. This picture has changed radically in the past two decades and in 1960 Navaho cash income has been placed conservatively at about $520 per capita per year, originating from a variety of sources. Even after correcting these figures for inflationary trends in the national economy, it is safe to say that the growth in Navaho income during this time period was quite rapid. In comparison with the United States economy the Navaho Reservation is distressingly less developed, but compared to other countries Navaho per capita income is substantial. Since economic growth is recent and evidently continuous, the Navaho area provides an adequate laboratory for analyzing relationships associated with this growth. The income is also high enough so that a measurable variation between diverse groups and individuals is possible.

Another reason for studying Navahos is that they are surrounded by, and culturally differentiated from, the larger American society. The study is purposely directed toward
investigating the potential significance of this cultural variation on economic growth, since this dissimilarity in human resources may have a direct bearing on the process of economic change. Not only is this cultural differentiation visible between economically underdeveloped and developed countries, but within many countries there are large groups of people outside the "main stream" of that country's economic and social life. This investigation attempts to clarify some of the problems of economic growth in this area of culture contact.

A third inducement for doing research among Navahos is that a number of small urban areas lie along the fringe of the Reservation and these areas have grown rapidly in population during the past several decades. These cities are within the larger American social and economic setting with populations of from about 10,000 to 25,000 in 1960. On the Reservation itself there are no urban centers, although there are several communities which are centers for Governmental and Tribal activities with populations numbering in the hundreds.20

A final secondary reason for examining the Navahos should be mentioned. Navahos represent the largest American Indian group, estimated in 1960 at about 80,000 living in and near the Reservation.21 In addition, the Navahos hold title to the largest Indian reservation, between fourteen and fifteen million acres22, even though a large percentage of this land is situated in a desert climate making it unproductive.
Therefore, there are a substantial number of Navahos and their area of habitation is extensive, suggesting two reasons why they may not be assimilated into the larger American society for many years.

By virtue of their growth in personal income, locational attributes, distinct cultural heritage, and size, the Navahos represent a unique group for testing a series of hypotheses concerning their economic situation in relation to existing human resources and location. The urban areas along the fringe of the Navaho Reservation represent the uneven pattern of economic development of the larger American national and regional economy. In these cities capital investment is relatively high and the non-Navaho population is large. The demand for Navaho labor is likely to be relatively high in these urban areas near the Reservation. The urban areas can also provide access to jobs in the region and nation. However, these economic benefits are not necessarily available to all Navahos living near urban areas. For example, the values, the amount of education and vocational training, or the motives among Navahos may all affect the kind of jobs and the quantity of income they can obtain directly or indirectly from a city. These factors are characteristics of each Navaho, vary for each, and are determinants of behavior in any given situation. For research purposes these factors fall into the following categories: 1) the values or value orientations of a person; 2) an individual's set of motives; and 3) the special skills,
education, or vocational training received by an individual.

The relationship between each of these elements, including location, and Navaho economic activity and income can be determined only by observation. Each factor could conceptually be considered as an independent variable and as the most important element in earning a substantial income. The potential significance of an adjoining American urban area on Navaho economic growth has already been discussed. With respect to values it could be contended that they are the most significant element in obtaining an adequate income for at least three reasons. One, values determine whether individuals desire an increased income which accompanies economic growth. Two, individuals must value the type of activity supplying this income. For example, the value orientations predominant in American culture apparently produce a high evaluation of the occupational world of technology, business and general economic activity. That is, a person must feel that it is safe to exercise one's capacities in a certain area of endeavor, in this case economic activities. Three, it might be reasoned that particular aspects of tradition and traditional values are antagonistic to economic growth and that these traditional features of a society impede this growth.

On the other hand, it is possible to consider individual motivation as the dominant variable in activating economic growth. Some authors maintain that personal motives, or in psychological terms, "needs", move a person to seek situations
or activities that provide maximum satisfaction in terms of those motives.\textsuperscript{26} Hence, in order to engage in innovative economic activity it is argued that a specific motive or set of motives is prominent in an individual's personality, and for economic growth to be initiated over a large area a considerable number of people must have similar characteristics.\textsuperscript{27}

Finally, it could be proposed that learning special skills, or that education is the cause of higher Navaho income and has provided the stimulus for overall economic growth. This is the most conventional method for analyzing the quality of human resources when discussing investment in human capital.\textsuperscript{28} Navahos who receive an education in American schools and learn to read and write, or who learn vocational skills in the American economy could be expected to work in non-traditional economic activities and to earn high incomes thereby initiating economic growth.

Each of these factors may be the catalyst, or the most important component of economic growth. The problem is not only determining the influence of an urban center on Navaho economic growth, but also estimating the effect of these other variables. The objectives of the research are not to ascertain the causes of economic gains throughout the Reservation, that is, the causes of Navaho economic growth in general. Rather, the intent is to study several small areas within this setting of general Reservation-wide economic growth and to estimate what role an urban community of industrialized America
plays in this process of change. Also, the purpose is to
determine whether other variables related to human resources,
including some of their cultural and psychological aspects,
are of consequence in this growth. If the latter set of vari-
able individually or in combination appear to be the key,
or at least statistically significant ingredients for obtaining a relatively high income, then it would be desirable to
indicate whether an urban center is influential in changing
these variables. That is, does living in or near such an ur-
ban area affect Navaho values, motives, or education.

No suggestion is being made that cities near the Reser-
vation play a substantial part in the total Navaho economy.
The Government, the Tribe, private individuals, and companies
are participating in economic activities throughout the Reser-
vation. The question is, given widespread economic growth
what is the role of an American city either in directly assis-
ting Navaho economic expansion, or in stimulating an appropri-
ate change in other variables which may be more or just as
strongly related to economic transition and growth. Given
this information some statements could be made about a system
of urban centers which might be more suitable for this process
of growth.29
CHAPTER 2

DELINEATION AND MEASUREMENT OF VARIABLES

The collection of data relating to the four major variables isolated for study together with economic activity and income (the primary measures of economic change and growth) provided the focus for field research. There was no material available for the measurement of these variables and individual interviewing was required to obtain information. It was decided that only men would be interviewed, since in most instances they appeared to be the economic innovators. In addition, other studies indicated that motives and Navaho value orientations might vary according to sex.\(^1\) It would be expected that education or training might also be related to sex.\(^2\) Furthermore, only men in the twenty to fifty-five age group were interviewed, so that youthfulness or old age would not affect the results. Men with physical defects or illnesses were also excluded from the study. The narrowing of factors to be investigated and their measurement represented a more challenging aspect of this study.

Motives and Value Orientations

Motives and values are two factors usually stressed when describing personality and behavior. Human motives, or needs, drive or direct the organism and in part determine why persons act one way rather than another in a given situation. Psychologists theorize that persons have general tendencies
toward one type of action or reaction to problems in their environment because they find pleasure or relief from tensions by acting in this manner.\textsuperscript{3} That is, people learn to obtain satisfaction by a certain variety of actions.\textsuperscript{4} Therefore, a motive may be defined as a term used to refer to the disposition within a person to strive for a particular type of goal-state which provides satisfaction. In striving for this satisfaction persons either approach a certain class of positive incentives (goals) or avoid a group of negative incentives (threats). However, an important aspect of motives is the striving for a specific kind of goal-state which defines the motive (e.g., achievement, affiliation, aggression).\textsuperscript{5}

A value, on the other hand, has been defined as a conception of the desirable. Values determine which things, goals, and types of actions receive approval or disapproval.\textsuperscript{6} A value orientation can be interpreted simply as a term for values which are general and organized, and which embrace both normative and existential judgments.\textsuperscript{7} On one level it might be correctly thought that values and value orientations are largely cultural products. However, an individual provides his own interpretation for a group value and values change or are invented because of this individual variation.\textsuperscript{8}

The difference between values or the more general value orientations and motives may not be apparent when observing human action. However, in analyses researchers generally distinguish between these two elementary categories for describing
Motives are inner forces causing general tendencies which drive the organism, whereas values are standards determining the types of actions which are permitted in satisfying these motives or the objects against which motives may be directed. That is, values canalize motivation—in solving human problems a limited range of action is allowable, which prescribes how and where needs can be satisfied. Value or values orientations provide an order and direction for action while the motive for action itself arises from general internal tendencies. Both values and motives, therefore, are a basic part of the personality and go into producing certain acts.

**Measurement of a Motive**

A variety of human motives cannot be examined among the Navahos and then related to economic activity. Even if methods for measuring any motives were available, the task would be impossible. However, methods for measuring the achievement motive (or need for achievement, usually written $n$ Achievement) have been developed by psychologists; and it is hypothesized by one psychologist, McClelland, and one economist, Hagen, that this motive is extremely important for economic growth. According to the McClelland hypothesis a society with a low level of $n$ Achievement among its members is not likely to undergo self-sustained economic growth.
Empirical findings suggest that a person with high $n$ Achievement is generally one who likes to solve problems, is characterized by a concern with accomplishment or success in what he undertakes, and finds satisfaction in this achievement and seeks situations for obtaining this satisfaction. In addition, such a person is nonconforming, energetic, and predisposed toward innovations; will take moderate risks as long as the results of such ventures are capable of being influenced or manipulated by his ability and judgment; and tends not to labor at safe and traditional tasks but at those which require some risk. This does appear to describe the drive of an entrepreneur, of one who might indulge in non-traditional economic activities, or of a person who would venture to migrate in order to achieve economic rewards.

One of the primary techniques for measuring $n$ Achievement owes much of its success to the pioneering efforts of Freud and Murray. Through the early insight of Freud that human motives are expressed most vividly in free-associative thought—in fantasy—Murray, with others, developed the Thematic Apperception Test (TAT) for estimating human motivation. The technique requires a person to devise imaginary stories in response to a group of pictures. These stories are then analyzed in order to reveal the underlying reasons for a person's behavior. McClelland and others borrowed the TAT technique and developed a procedure for measuring an individual's achievement motivation. This is done by a simple count
of the number of achievement-related ideas in the stories a person writes. This methodology has been validated by many independent researchers in the field of psychology and the system for scoring, though somewhat more complicated than suggested here, appears to be adequately measuring n Achievement.17

A critical aspect of such measurement, though, is the reliability of the n Achievement scores. The errors in scoring must be much less than the variability of achievement motivation which this method purports to measure in the population. Frequently interscorer (several scorers reading the same TAT stories) and score-rescore (the original scorer repeating the procedure after several weeks or months) reliability coefficients are above 0.90. People trained in the use of the testing manual by the authors of this procedure yield interscorer reliability coefficients of 0.85 to 0.98. Under a procedure to train n Achievement scorers in twelve hours using only the test manual and practice materials the median interscorer reliability coefficient was 0.87. Test-retest reliabilities (testing the same group on two occasions) have been quite a bit lower. However, it is argued that since it is difficult to replicate testing conditions, and because a response once given tends to produce resistance to further testing, a high test-retest reliability coefficient should not be insisted upon. Nevertheless, when informants were placed above and below the median between seventy and seventy-five
percent have been reported to fall within the same group on both occasions. This suggests that at this stage the method should not be used beyond classifying populations into high and low, or high, middle, and low achievement groups. 18

Need for achievement was measured among the Navahos using a method corresponding to the one developed by McClelland and others. Four pictures were used to obtain stories from individuals. The pictures were similar to those normally shown in the TAT except they were drawn so that figures in the pictures resembled Navahos. 19 A description of the procedure employed in administering this test and a copy of the pictures are shown in Appendix I. For each man interviewed the conditions leading up to testing were kept as similar as possible so that responses would not be influenced by variations in cues. The resulting stories were scored by a social psychologist trained in this procedure and experienced in scoring stories from both Western and non-Western cultures. 20

Measurement of Value Orientations

A measurement of values was obtained by using the orientation construct developed by F. Kluckhohn. 21 These value orientations can be thought of as principles inherent in humans for evaluating their environment, thereby giving an order and direction to their action in solving human problems. 22 F. Kluckhohn assumes that a limited number of common human problems exist, that all peoples must find some solution to
these problems, and that these solutions are variable only within a limited range. As the first step five problems have been chosen as crucial to all human groups: man's view or conception of human nature; his relation to nature; time; human activity; and his relationship to other men, represent problem areas for which peoples have always found solutions. Table 2.1 lists the orientation areas suggested by these problems and the range of solutions postulated for each.23

"Human nature" is divided into several logical categories as a first approximation of the major variations in this orientation area. "Human nature" may be viewed by some individuals, or groups, as innately Good or Evil, or as a combination of Good-and-Evil, or simply as Neutral. Each of these can be conceived of as subjected to change or invariable. An Evil conception, for example, may be seen as unalterable, or as perfectible. As an illustration, the Puritan view of "human nature" probably was that man was innately Evil, but through discipline goodness could be reached.

The "man-nature" orientation area is self explanatory, as is the "time" orientation area, or the temporal focus of human life--is the person or group oriented to the Past, Present or Future. With respect to the "activity" problem, the mode of self-expression of the individual or group in activity is of interest. Only the difference between the Being and Doing variations will be discussed. The Doing variation can be thought of as a value that emphasizes accomplishment
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<th>Orientation Areas</th>
<th>Postulated Range of Variations</th>
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<td>Evil mutable immutable</td>
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<td>Neutral Good-&amp;-Evil mutable immutable</td>
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and getting things done. In the Being solution, on the other hand, there tends to be a preference for the release of impulses and desires, that is, for a spontaneous indulgence of existing desires. In comparison with the Doing alternative it is a nondevelopmental conception.

All three variations of man's relation to other men—"relational"—receive varying stress in each society, thereby possibly determining the type and significance of various societal goals. When the Individualistic preference is dominant the individual's welfare and goals will prevail. However, when the Collateral alternative is paramount the goals of the laterally extended group probably are most influential. This is often the extended family group, as is the case historically among Navahos, and their welfare becomes primary. When the lineal choice is dominant group goals are again of primary significance, but one of these goals is to maintain the continuity of the group through time. This continuity together with ordered positional succession within the group are probably both important considerations when the Lineality conception is dominant.24

F. Kluckhohn with other investigators developed a schedule consisting of twenty-two questions for testing the similarities and differences in the rank ordering of these value orientation alternatives among people with various cultural backgrounds.25 This questionnaire was used in 1951 to elicit responses from five communities located in the Southwest:
a rural settlement of Navaho Indians, a Pueblo Indian community of Zuni, a Spanish-American village, a Mormon village, and a farming community of Texan and Oklahoman homesteaders. Responses generally confirmed the hypothesis that all value orientation variations are present in a society at all times, but that specific alternatives predominate. Also verified were C. Kluckhohn's predictions of Navaho value orientations based on his field work dating back to the 1930's, indicating that dominant Navaho values have stood up fairly well over a long period of time. Moreover, these value preferences were different from Texan-Oklahoman responses. For example, this latter group was oriented toward Future time, toward Man-over-Nature, and toward Individualism in their relations with other men. In contrast, Navahos were oriented toward the Present time, toward Man-with-Nature, and toward Collaterality.

It is suggested that these value orientations of the Texan-Oklahoman group are representative of American society and are conducive to a high evaluation of technology, business, and economic activity in general. The internalizing of such a set of value orientations by a group appears to open an area for action which condones economic activity and contributes to economic growth. By ascertaining value orientations for various Navahos it may be possible to determine whether these elements play a significant role in Navaho economic behavior, and whether traditional value orientations represent a barrier to economic well-being.
The set of value orientations described by F. Kluckhohn is certainly not exhaustive. The list of problems for solution could be extended; the number of life situation questions used in obtaining information about orientation areas could also be greatly increased; and other methods for evaluating value or value orientations, such as Parsons' "pattern variables" could be devised. However, a method for giving this set of value orientations has already been designed and tested, and data already exist for a Navaho and American community. In fact, this probably represents the only formal schedule to obtain value orientations outside Western society.

All twenty-two questions of the F. Kluckhohn study were not used to investigate Navaho value orientations. Because of the length of the total research schedule six of the original questions were dropped. The questions deleted were not those which usually reinforced dominant Navaho value orientations in the F. Kluckhohn investigation. With a small number of changes the questions employed follow the original research instrument, and they are shown in Appendix I. Each life situation depicted in these questions was comprehensible to all Navahos.

Summary

The understanding and measurement of values and motives represents one of the more difficult aspects of this research. The decision as to whether or not motives and value
orientations, for analytical purposes, are really separable and capable of being measured by the methods outlined must, with the usual judicious caution, rest on the empirical research evidence which has gone into producing these methods. In value orientations it is the existential and normative judgments of individuals about human problems of the external world that are significant, whereas, in motives primary interest centers on internal tendencies that drive or direct a person. It is essentially for these reasons that motives are measured in fantasy, or free-associative thought, and value orientations determined by using a questionnaire where the choice of solutions to problems is necessary.29

Another difficulty is in showing that behavior is actually related to the variables being examined. Once again the existing weight of evidence must be used to justify this belief. This conviction is strengthened by the fact that in each of the projective test techniques employed (picture cues and questionnaire) an attempt was made to put the person interviewed into a realistic life situation so that stories and solutions to problems would have some relation to actual behavior. A stronger test will be provided when the results of these techniques are related to economic success and other variables.

No effort is being made to describe total personality. Only a few aspects of individual and group value orientations and motives are being investigated since these appear to be
fruitful for the purpose of relating these variables to income and types of economic activity.  

**Education, Skills, and Training**

An individual brings more than an internal set of motives and values into a given situation. While these are important elements in producing any action, an individual has at his disposal an area of knowledge and skills that have become a part of him and which represent an available means for influencing behavior in any set of circumstances. Of prime importance for this research project is an estimate of the education, skills, and training a Navaho has received as a result of contact with the American society. While it is probable that values and motives affect the extent to which a person uses various skills and knowledge, or the degree to which education and training is sought, some Navahos have a greater opportunity for obtaining various skills and knowledge from the American society and others have a better chance to use these capacities.  

The quantity of education a Navaho acquires in American schools, the amount of training he receives in American technology and business, or his learning of a technical skill may all affect the income of a Navaho or the type of economic activities in which he participates. Among Navahos education and training may be particularly critical for gaining economic rewards, especially if these rewards are gained within the
larger American economy. The language barrier is one difficulty which the Navaho must overcome to obtain some types of work in the American society, but, in addition, Navahos are traditionally rural in outlook. Their experience and training has been with plants and animals, rather than with the processes of machinery. The former training may be important for securing an income from the physical environment, yet it may prove a handicap to a Navaho attempting to find employment in an urban-industrial setting. With some of the foregoing criteria in mind, data collected from Navahos included: 1) years of formal education; 2) ability to speak and/or write English; and 3) whether special skills for securing economic rewards had been acquired through education and training, or possibly experience.

It is recognized that knowledge and certain skills filter through a society, but these occurrences are too difficult to measure, and no attempt will be made to do so in this thesis. Rather, the aim is to estimate the significance of the more formal types of education and training received from the larger American community on Navaho migration, economic activity and income, and what the role of an urban center is in providing more of this education and training.

Location

Another variable assessed in part to determine its effect on Navaho income and economic activity was location. It was previously stated that the areas to be examined in or
near the Reservation were not to be chosen randomly thereby procuring an average range of Navahos in the sampled population. Instead they were to be selected with a view toward testing various locational hypotheses. Therefore, an effort was made to evaluate the influence of an American urban-industrial focal point of population and capital investment directly on the income and economic activity, and indirectly on those other variables delineated that might be related to economic ends, of Navahos living in various areas with different degrees of access to this city. Interest was also directed toward Navahos who had migrated into an American city and an attempt was made to determine whether these people were in a better economic position than other Navahos interviewed, or if their general characteristics differed substantially from other Navahos. As a result three separate groups of Navahos were selected for investigation: 1) a rural group living on land traditionally held by Navahos and within five to fifteen miles of an urban center adjacent to the Reservation; 2) another rural group living on the Reservation about seventy-five miles from this city, and no closer to any other such city; and 3) a final group living within the urban center near the Reservation.

Nothing will be presented in this study concerning type or size of city, or rate of city economic or population growth, though these factors would obviously have some influence on Navaho life. For example, a city whose economy is
largely based on manufacturing could be expected to provide
different types of jobs than one based on professional ser-

vices. Thus, Navahos with one kind of skill might be drawn
to one type of city rather than to another. Also, city size
in one way or another could affect the number and kind of
Navahos coming to such a city, and the rate of city growth
could likewise have a positive or deleterious effect on the
Navaho labor market or the value a Navaho placed on city-life.

Attention is being focused on only one city, and while this
city appears to be a trade center, it is also growing in many
other industries, but because of their complexity and scale
nothing can be said about these other factors.

**Economic Activity, Income, and Other Variables**

The measurement of economic change and growth was
accomplished by using several indicators. These included
obtaining information from each man interviewed about his
occupation or type of work, where he worked, and his income
for the latest one-year period. While this type of analy-
sis is static it provides information concerning a man's eco-

nomic status which can be related to other variables under
consideration. In this sense the latter set of variables is
also static—that is, taken at one point in time. To partially
overcome this difficulty and to provide a more orderly sense
of change among some of the variables under study an attempt
was made to trace all previous moves, jobs, and occupations
of each informant. In addition, where possible the primary occupation of the father was noted to provide a further estimate of economic change over time and of the significance of a particular type of family background in contributing to economic change and growth. This together with historical information helped compensate for some of the relatively static features of this study.

Other information usually noted was an informant's age, birthplace, current health, and military service history; degree of Navaho blood inherited by an informant, who raised him as a child and the education of those who reared him; religious preferences of an informant and of those who raised him; an informant's household composition, size, and approximate age of each member, as well as similar information about the extended family if inhabiting the same camp; and residence and occupation of any male siblings of an informant if such information could be readily obtained. This, together with other data, gave a fairly clear picture of an individual's background and history, and of the process of economic and social change.
CHAPTER 3

GENERAL DESCRIPTION AND RESEARCH PROCEDURES

The Setting

The Navaho area contains between fifteen and sixteen million acres of land, or about 24,000 square miles covering parts of Arizona, New Mexico, and Utah. The Navaho population in 1950 totaled about 69,000, having increased by about 20,000 in the decade of the 1940's. A 1961 estimate placed the Navaho population in the vicinity of 88,000 to 90,000. Navaho population growth has been little less than phenomenal in the past two decades, hovering near an increase of three percent per year.

With respect to physiography and climate the Navaho region may be divided into three fairly distinct zones: 1) the cold, more humid climate of the high altitudes (elevation about 7,500 to over 10,000 feet), where total annual rainfall averages between sixteen and twenty-seven inches and average minimum and maximum temperatures vary from about 100 to 75°F; 2) the intermediate steppe climate of the mesas and high plains (about 5,500 to 7,500 feet in altitude), covering about one-fifth to one-third of the Navaho area, where the annual rainfall normally averages from twelve to sixteen inches and the average minimum and maximum temperatures range from approximately 20° to 85°F; and 3) the comparatively warm desert zone (about 4,500 to 5,500 feet above sea level).
General area of early Navaho settlement in the Southwest Region.

A?4YQN

Original Treaty - 1868
1868 to 1880
1880 to 1890
1890 to 1900
after 1900

Non Reservation Areas now generally occupied and used by Navahos

NAVAHO COUNTRY
SHOWING GROWTH OF NAVAHO RESERVATION

variously estimated as embracing fifty-five to seventy-five percent of the Navaho area, where rainfall averages between seven and eleven inches annually, but with wide variations from about 1.5 to seventeen inches, and where the average minimum and maximum temperatures vary from $20^\circ$ to $100^\circ F$.

Soils of the Reservation follow the general physiographic pattern and are graded according to quality for grazing, since the grazing of sheep and goats is the traditional Navaho method of obtaining a livelihood. Soils are classified into five categories, 1) excellent and 2) good soils together totaling about one-third of the area; 3) fair soils, comprising another one-third; and 4) poor and 5) unproductive soils again amounting to about one-third of the area.

Physically the Navaho area can be described as harsh. The land is generally located in a desert or steppe zone where rainfall is limited, where temperatures vary annually from one extreme to the other, and where soils can be used only for grazing and a majority of this is only in fair to poor and unproductive condition.

This physical area is tied to the larger "Southwest Region" and nation by several principal highways which encircle most of the Navaho land area and population. These highways include the north-south U.S. Route 89 on the western edge of the Reservation, the north-south U.S. Route 666 in the eastern section of the area, the east-west Route 66 along the southern border of the Reservation and the newly completed
Indian Route 1, or State Route 64, which traverses the northern portion of the Navaho area. Except for the eastern and western peripheral highways it is only in the past decade that hard surfaced roads have advanced onto the Reservation. However, U.S. Route 66 is one of the busiest transcontinental highways of the nation since it is the principal southern link between the West Coast and points east. It is along this transportation artery, adjacent to the Reservation, where most of the city growth has occurred in this area. The cities of Flagstaff, Winslow, and Gallup are located along its path with the two larger cities, Flagstaff and Gallup, situated at the intersection of this highway with the two major north-south routes peripheral to the Reservation. The only other city with a sizable population is Farmington, New Mexico, located east of the northern part of the Reservation. The nearest large city is Albuquerque, New Mexico. It is about 1,140 miles east of Gallup on U.S. Route 66. The Reservation itself has no cities which can be measured in the thousands. The Navaho people for the most part remain scattered in family groups throughout the Reservation. However, growth of administrative and governmental centers such as Window Rock, Fort Defiance, Shiprock, Tuba City and Chinle has commenced in the past decade.

In addition to the physical environment the cultural and historical setting must be considered. Navaho culture and history are described more fully in Chapter 6 where this
background material is synthesized with part of the results. In summary Navaho society is generally characterized as one without authoritarian, formal rules. For example, leadership roles and occupations are not usually pre-determined by a person's family background; political decisions tend to be reached informally by the collective group and no prescribed person is given authority; and, social and political control is informal. Related to this is the fact that Navahos are noted for their adaptability and flexibility in social organization. Numerous variations exist in how specific aspects of social life are organized and these are adaptable to change. This flexibility, adaptability to change, and frequent absence of formal rules were probably encouraged by and consistent with a stock-raising and a hunting economy, and low density residence patterns. Traditionally Navahos have been oriented toward the collateral family group for organizing work and other activities; and have been noted for their industry in work, their curiosity, and imaginativeness.

The history of contact between Navahos and non-Navahos has also been unique. Little is known about Navaho history until the Spanish period in the Southwest beginning early in the seventeenth century. Apparently since their arrival about a millennium ago in the Southwest Navahos have been learning new ways from other Indians in the region. During the Spanish period Navahos continued to adapt to new ways and their economy and mobility were revolutionized by the introduction of horses,
sheep, and goats. Nevertheless, contact with Europeans up until the United States took possession of the Southwest was extremely limited and changes in Navaho society continued to be transmitted generally through other Indian groups.

When the United States acquired the Southwest the period of indirect contact with Western civilization abruptly ended. The Navahos were conquered in 1864 and most were placed in an internment camp until 1868. However, while this initial contact period was a time of great distress, and other periods of tension have been known in Navaho-American relations, the Navaho way of life has not been completely undermined. Navaho land and population have expanded since 1868; tribal unity has advanced; and the United States Government has even encouraged traditional Navaho activities. With the exception of the early American contact period, Navahos have generally lived in their own fashion without coercion and have established their own pace of change. The relative permissiveness of the contact situation has probably been an important factor in the change and adaptability of Navahos which has continued to the present.  

This provides some information concerning the setting from which men were chosen for this study.

Selection and Description of Research Sites

For the research project contemplated the most suitable city for studying Navahos living in and near it was Gallup,
New Mexico. Gallup's history dates back to 1879; it is near the Navaho population center; it is within about seven miles of the Reservation boundary; and Gallup, as Table 3.1 shows, has had a fairly rapid and constantly increasing population growth over the past three decades. In addition, Navahos seem to be a part of this growth even though the Indian population of Gallup was only about fifteen percent of the 1960 total.

Table 3.1 also illustrates the growth rate of other cities near the Reservation for the census years 1930 to 1960.9 Of these cities Gallup shows the largest Indian population in 1960 and the proportional increase of Gallup's Indian population in relation to total population has been the highest for the last two decades.10 The ratio was also about constant for those two decades. Farmington and Flagstaff had the largest population increases between 1950 and 1960, but they are located away from corners of the Navaho Reservation and, therefore, are more distant from the total Reservation population than Gallup. This suggests one possible reason for their low Indian population and rate of increase.

Table 3.2 indicates that while Gallup is primarily a retail trade center it has had employment growth during the past decade in other industries, and an actual decline in the proportion of employees participating in wholesale and retail trade activities.
### TABLE 3.1

**POPULATION DATA FOR CITIES ADJACENT TO THE NAVAHO RESERVATION**

<table>
<thead>
<tr>
<th>City</th>
<th>Year</th>
<th>Total Population</th>
<th>Percent Increase Total Population</th>
<th>Population Increase</th>
<th>Population &quot;Other Races&quot; (Not White or Negro)</th>
<th>Absolute Population Increase Over Preceding Ten Year Period</th>
<th>Total &quot;Other Races&quot; Increase Per Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flagstaff, Arizona</td>
<td>1930</td>
<td>3891</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1940</td>
<td>5080</td>
<td>30.6</td>
<td>40</td>
<td>NA</td>
<td>1189</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>7663</td>
<td>50.8</td>
<td>179</td>
<td>NA</td>
<td>2583</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td>18214</td>
<td>137.7</td>
<td>750</td>
<td>655</td>
<td>10551</td>
<td>571</td>
</tr>
<tr>
<td>Winslow, Arizona</td>
<td>1930</td>
<td>3917</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1940</td>
<td>4577</td>
<td>16.9</td>
<td>104</td>
<td>NA</td>
<td>660</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>6518</td>
<td>42.4</td>
<td>316</td>
<td>NA</td>
<td>1941</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td>8862</td>
<td>36.0</td>
<td>849</td>
<td>NA</td>
<td>2344</td>
<td>533</td>
</tr>
<tr>
<td>Farmington, New Mexico</td>
<td>1930</td>
<td>1350</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1940</td>
<td>2161</td>
<td>60.0</td>
<td>32</td>
<td>NA</td>
<td>811</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>3637</td>
<td>68.2</td>
<td>97</td>
<td>NA</td>
<td>1476</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td>23786</td>
<td>55.5</td>
<td>519</td>
<td>484</td>
<td>20149</td>
<td>422</td>
</tr>
<tr>
<td>Gallup, New Mexico</td>
<td>1930</td>
<td>5992</td>
<td>-</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1940</td>
<td>7041</td>
<td>17.5</td>
<td>200</td>
<td>NA</td>
<td>1049</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>9133</td>
<td>29.7</td>
<td>840</td>
<td>NA</td>
<td>2092</td>
<td>640</td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td>14089</td>
<td>54.3</td>
<td>2123</td>
<td>2061</td>
<td>4956</td>
<td>1283</td>
</tr>
</tbody>
</table>

1) Sources:
TABLE 3.2

EMPLOYMENT BY MAJOR INDUSTRIES FOR GALLUP, NEW MEXICO

1950 AND 1960

<table>
<thead>
<tr>
<th>Major Industry Group</th>
<th>1950 Employees</th>
<th>Percent</th>
<th>1960 Employees</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employed, both sexes</td>
<td>3105</td>
<td>100.0</td>
<td>4870</td>
<td>100.0</td>
</tr>
<tr>
<td>Major Industry Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>229</td>
<td>7.4</td>
<td>378</td>
<td>7.8</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>88</td>
<td>2.8</td>
<td>351</td>
<td>7.2</td>
</tr>
<tr>
<td>Transp., Communication and Other Utilities</td>
<td>442</td>
<td>14.2</td>
<td>602</td>
<td>12.4</td>
</tr>
<tr>
<td>Wholesale and Retail Trade (Retail Trade)</td>
<td>1081</td>
<td>34.8</td>
<td>1333</td>
<td>27.4</td>
</tr>
<tr>
<td>Personal Services</td>
<td>305</td>
<td>9.8</td>
<td>363</td>
<td>7.5</td>
</tr>
<tr>
<td>Professional and Related Services (Educational, Gov't)</td>
<td>270</td>
<td>8.7</td>
<td>579</td>
<td>11.9</td>
</tr>
<tr>
<td>Public Administration</td>
<td>360</td>
<td>11.6</td>
<td>711</td>
<td>14.6</td>
</tr>
<tr>
<td>Others</td>
<td>330</td>
<td>10.7</td>
<td>553</td>
<td>11.2</td>
</tr>
</tbody>
</table>


-39-
It is also recognized that a partial bias was introduced by examining a city with continuous growth over recent decades. For example, overall demand for Navaho labor is potentially at a higher level under such conditions. Such a bias, however, is not unique to Gallup. Most cities in the West are growing rapidly and it does not appear that a large number of Indians and Indian groups have been integrated into American urban-industrial society.

After choosing Gallup as the urban study area it was only necessary to find an appropriate community on the Reservation for research. Once the urban area was chosen the adjacent locality automatically defined the second area and group to be interviewed. This was aided by the fact that land surrounding Gallup has a long history of Navaho settlement.\textsuperscript{11}

Several criteria were considered in the choice of the hinterland Reservation community: 1) the physiographic, climatic, and soil conditions had to be similar to those of the rural Gallup area; 2) no city could be closer than Gallup and there should be no governmental-administrative center or sub-center in the community; and 3) the location should be centrally established on the Reservation, but, more importantly, the distance to the administrative-governmental center of Fort Defiance-Window Rock should be about the same as the distance from the Gallup area to Fort Defiance-Window Rock. The Fort Defiance-Window Rock area on the Reservation is the current and historical Tribal political center, some Federal and
State governmental activities are also located here, and the Tribal Sawmill is only about ten miles away. The employment generated in this area is higher than for any other location in the Reservation, and the attempt was to choose study areas about equidistant from this center so that access to these employment opportunities outside the city were about equal. Historically Fort Defiance-Window Rock is also a small center of Navaho and non-Navaho contact which may have had some influence on economic and social change locally. Therefore, the Fort Defiance-Window Rock area was to be located midway between Gallup and the community in the Reservation hinterland.

One community did meet all of the outlined criteria, "Turquoise Valley." In addition, this community was relatively isolated, having no paved roads through it. The nearest hard surfaced road was about twenty miles away. Also, the nearest Reservation sub-center of administrative-govermental importance was not close enough to influence the community economically or socially, and the distance to Gallup averaged approximately seventy-five to eighty miles. Turquoise Valley covered a square of land surface about fifteen to twenty miles on a side and contained an estimated population of 1200 to 1500. The community had a small center of activity which included a trading post and a Bureau of Indian Affairs boarding school completed in 1954 for teaching grades one to six.
In contrast, the rural area studied near the city of Gallup was made up of fractions of several communities. The area of research was confined to a band lying within about five to fifteen miles from the city. The estimated Navaho population living here was about 1500 to 2000. Paved roads were at most only a few miles away from any resident and access to the city was relatively easy. Also, an inter-regional highway system crossed the entire area. The major difference between the two rural areas sampled, besides their relative positions within the American urban-industrial matrix, was that each area had a different pattern of land ownership.

Back on the Reservation land belonged to the Navaho Tribe and the title was held by the United States Government. Near Gallup, however, the land situation was different. In addition to Tribal land within the Reservation there existed outside these boundaries almost 700,000 acres of Navaho allotted lands, largely in New Mexico; about 200,000 acres of Tribal lands held in fee; 250,000 acres of Tribal trust land; and approximately 600,000 acres of land in New Mexico under various types of Federal ownership, but used by Navahos. All of these types of land holdings were prevalent near the city. However, the majority was in allotted land and various types of Federally owned land, together with some State and privately held (non-Navaho) land. Therefore, even though the land was held differently in each area the actual title for almost all land inhabited by Navahos in these locations
was held in trust by the Government and responsibility for
protection and management of properties rested with the
Government. This meant that people living in either area
share equally in both Governmental and Tribal services and
welfare. One possible difference between the two areas with
respect to land was that there may have been slightly less
freedom in stock grazing where allotments were small. The
only major difference, however, seemed to be a wariness among
the people near the city concerning questions about land owner-
ship. While most of the people, along with previous genera-
tions of relatives had lived in this area, land ownership was
still apparently a source of some irritation. There has been
legal conflict between Navahos and non-Navahos over much of
the non-Reservation eastern part of the Navaho area. In re-
cent decades this conflict has subsided, but Navahos were
still very cautious over land matters, particularly since a
new highway was being built in part of this area. The con-
clusion reached was that the pattern of land tenure in the
two areas was not a cause for concern in the research design.

**Sampling Method**

According to 1960 census material there were approxi-
mately 370 non-white men between the ages of twenty and fifty-
five living in Gallup. After correcting for Non-Navahos in
this figure, Navahos in institutions such as hospitals, and
perhaps some increase due to migration, it is estimated that
the Navaho male population in this age group in 1963 was be-
tween 225 and 275. To find a representative sample from
this group several methods were used to acquire information
about location of residences. First, the public schools in
Gallup consented to have their enrollment cards checked. These
cards indicated a student's home address and whether or not
the student was Navaho. Parochial schools were able to supply
the same information. Then, utility office files and telephone
books were thoroughly combed for Navaho addresses, since
Navaho names are frequently distinguishable from other names.
The personnel files of the larger known employers of Navahos
in the city were also gone through to obtain addresses. As
a further check the resulting list of names and addresses was
compared with names offered by long-term Navaho residents.
Finally, in the course of interviewing in the city, some Nava-
ho residences were noted which were not on the original roll.
All of these addresses were catalogued and the total came to
about 275. From this inventory addresses were drawn by use
of a random number table. After interviewing began it became
apparent that single men were not being represented in the
sample. It was feared that the method of obtaining addresses
might have weighted the sample unfavorably. Hence, temporary
quarters such as hotels and motels were visited in search of
Navahos. This produced only a few more residences which were
added to the existing list for random selection.
The various residences randomly drawn were then visited. Some were no longer inhabited by Navahos. When they had moved to other areas in the city it was possible to track them down. Other addresses proved to be inhabited only by Navaho women. In all, thirty-five men consented to be interviewed in the city. About an equal number of men were contacted but: 1) for reasons of health could not be interviewed; 2) were unwilling to be interviewed; or 3) were willing to be interviewed but time scheduling could not be worked out. In a household with more than one man an attempt was made to choose one randomly so that a bias toward age and family responsibility did not occur in the sample. Therefore, another small group was excluded from the interview when living in the same household. In all it was conservatively estimated that about fifteen percent of the Navaho men between the ages of twenty and fifty-five living in the city during the research period were actually interviewed, with at least a third of all men in that age group actually being contacted.

In the area sampled near the city (hereafter to be known as "Neartown") men were drawn randomly from four separate communities. Of great help were aerial photographs of the area made by the United States Geological Survey only six months before interviewing began. From these photographs it was possible to map structures and unpaved roads. Each structure was then given a number, and from a random number table a sample of dwelling units was drawn to be visited.
Some of the structures had been uninhabited for many years, and others were not dwelling units, although these constituted few structures. When this did occur, or when no men were living in a dwelling unit, the nearest Navaho dwelling unit was taken in its place. When more than two men in the proper age group lived in one dwelling unit, as happened infrequently one man was chosen randomly for an interview. Out of about 500 structures mapped, approximately 350 to 400 were actually Navaho dwelling units and recently inhabited. 24 From field data this indicates that about 250 men between twenty and fifty-five years old lived in Neartown. A total of thirty-seven men were interviewed, or about fifteen percent of the total sample population, and at least an equal number were contacted for interviewing purposes. Reasons of health and unwillingness to be interviewed were major reasons for fewer interviews. When this occurred the closest Navaho dwelling was contacted to take its place in the random order. Overall about one-third of the male population in Neartown was contacted for an interview, not including male relatives in the same household or brothers of an informant who were automatically excluded from the study.

In the Turquoise Valley community back on the Reservation it was possible to obtain the names of Navaho men who were about twenty years old or more. From this list names were drawn using a random number table. Then those men were searched for in the community. 25 Several sources were used
to obtain this inventory of names. The local trading post kept records of men who had obtained credit or sold livestock products to the store. This store also kept records of men who had worked on Tribal and Government public works projects. This list was supplemented by the names of fathers who had children in the community school or in a school about thirty miles away (children were taken by bus to this school daily), and by local employment records. The resulting roll was then checked over with community leaders for accuracy. In the course of doing research few additions to the list of almost 200 names became necessary. Of these 200 a few were too young or too old, a few were in ill health, and others were away "permanently" so that maybe slightly over 150 men were eligible for participating in the project. Not correcting for the male siblings of informants, who were numerous, about twenty percent of the eligible population in this area was sampled, since thirty men were interviewed. Few men in this community were unwilling to be interviewed.

In addition to these three different groups of men a very small sample of entrepreneurs was studied. Who these men were and the results of the study appear in Chapter 8.

Administering the Research Schedule

The finding and training of an interpreter was the first essential step in administering the research schedule. Since it was known that many informants would not be able to converse in English it was necessary to take about a week
teaching an interpreter to handle the research schedule in Navaho, as well as English. It was most important that the Thematic Apperception Test (TAT) and value orientation questionnaire be given to each informant in exactly the same manner using the same Navaho words. It was also essential that the meanings be similar in both English and Navaho.

Two interpreters were used at separate times during the research period. Both interpreters had finished high school and one had gone beyond this, and both had interpreted professionally in the past while working with anthropologists. Their capabilities with the schedule and with the people were extraordinary. Their training consisted of going over the schedule for a few days and putting the English into Navaho. Then this would be tried out on Navaho bilingual friends and relatives of the interpreter. In each case the Navaho schedule was then worked on with other Navahos who had interpreted professionally and then revisions were made for meaning. A few days were then allowed to commit the schedule to memory when translating from written English. While the author's Navaho language ability was limited it was sufficient to note consistency, and each interpreter achieved this along with understanding in the Navaho language. Needless to say each interpreter also translated the schedule into very similar Navaho, that is, the meaning was not distorted by using two interpreters.
Before entering a community outside the city a local political meeting was frequently attended. Many members of a community attended this meeting and it was possible to discuss in Navaho and English why it was desirable to do research in that community and what the research was about. A discussion would develop and then the community might vote on whether or not they wanted to participate in the study. The procedure was a sound one. Things were immediately in the open and everyone knew that a non-Navaho would be surveying the community.26

When a name or residence was drawn randomly an attempt would be made to find the location or person, or an appropriate substitute as previously discussed. If the person was away or the residence was temporarily empty, the home would be repeatedly visited—never less than three times and usually more often. When a suitable informant had been found an explanation of the study and what was desired of him was given. A brief statement of what was generally said appears in Appendix I.27 Usually the discussion was much longer than this explanation indicates, frequently lasting a half hour with other members of the family taking part, and requiring further explanation. The author was disposed toward a friendly relationship with Navaho informants and non-informants. An unhurrying and understanding attitude was necessary if cooperation was to be gained. Therefore, after due explanation, a potential informant would decide if he wished to be
interviewed, or an appointment for a later time frequently would be made. Several appointments were occasionally made before an informant could be interviewed.

After a man consented to being interviewed, it was then important to try to interview him alone, away from his family, where he could answer without feeling inhibited. In Gallup men were usually interviewed in the author's apartment. Outside the city interviews took place in the car or under a tree away from the house. Only a few men had children or other members of the family present during the interview.

Just prior to giving the schedule it was asked whether the informant preferred that the questioning be in English or Navaho. Then some of the general information about the study was repeated along with further details. This was followed by a series of simple questions to put the informant more at ease: his age, where he had lived in his life, and his name and census number if he cared to give it. At this point the TAT was given before any cues could be obtained from the research schedule which could distort the stories. The informant was given his choice of writing his own stories, or giving them orally in Navaho or English. The instructions were then given. Rarely the TAT instructions had to be given twice because there was not full understanding. Each of the four pictures was shown for about ten seconds, and then one minute was timed for an answer. Oral stories were taken down in long hand immediately. When in Navaho they were also translated
immediately and written down in longhand after each question was answered. 28 This was accomplished smoothly and oral and written stories were almost equal in length. The interpreter was also instructed to translate literally, word for word, even if the resulting translation was not always understandable. The meaning would then be worked out after the interview, but the word translation remained the same so that scoring would not be hindered.

This was then followed by questions concerning income, jobs, education, migration, job history, and so on, and then the value orientation instructions and questions. The last series of questions dealt with religion and the family. Then the interview was concluded by thanking the men for contributing their time, and non-entrepreneur informants living outside the city were given gifts. These men did not know they were going to receive any gifts, and they gave their time without the expectation of any reward even though they were told that the interview would last a couple of hours. The time of the interview actually averaged about two and one-half hours, with a range of one and one-half to four hours. Occasionally an interview had to be stopped because of loss of interest, or a set of answers had to be discarded for the same reason, but these numbered less than half a dozen men. The men appeared, for the most part, deeply involved in the questions and after the interview some would comment that they had never thought about some of the questions in such a
way, and felt that the experience was enlightening.

Some Characteristics of the Population Sampled

The average age of the men sampled was between thirty-eight and thirty-nine in each of the three areas. However, the median age for both the city group and those living in rural Neartown was thirty-nine years old and for Turquoise Valley it was 36.5. This small age difference between the various population was insufficient to influence any results. With the exception of three men, all were between the ages of twenty and fifty-five. These three men, one in each area, were over fifty-five years old. The age of all three was not suspected until the interview was well along, and because each man was very active their replies were not discarded. Also, inadvertently, two full brothers were interviewed; neither interview was discarded.

Only eight men of the 102 sampled in three areas had not been married at one time or another, and consequently they had no wife and children to support. Four of these men lived in Turquoise Valley, one in the city, and three others in Neartown. This factor influenced some of the results in the areas outside the city. This will be discussed more fully in later chapters.

With respect to the degree of Navaho blood inherited, all the men interviewed were at least half Navaho, and almost every man was full Navaho. Out of the 109 men only one man
had a Caucasian parent; four were known to be from one-eighth to one-fourth Spanish-American; and one had a parent from a different Indian group.\textsuperscript{30} All of these men though were raised as Navahos.\textsuperscript{31}

Of those interviewed only three did not speak Navaho fluently. All three were urban dwellers and had spent most of their lives in the city, or in contact with non-Navaho society.

The urban dwelling informants had lived from one month to twenty-eight years in Gallup. The average length of time spent in an urban environment was about twelve years, and only one man had been born in a city. The remaining urban in-migrants were born throughout the Reservation but the majority came from an area within twenty to sixty miles of Gallup.

Among those interviewed in Neartown, a few had moved there because they married women living in this area. However, only two men could really be considered in-migrants. That is, they came from a relatively long distance to find work and married women near where their job was located. The rest of the men in this group originally lived in an adjacent area where accessibility to the city and Neartown was very high. Also included in the Neartown sample were two men living with their families fairly long distances from this area and the Reservation. They were railroad workers who frequently returned on weekends and for vacations to their original and permanent homes. Therefore, they were considered
residents of the area sampled. Other characteristics of those interviewed will be brought to light in succeeding chapters.
CHAPTER 4

ACHIEVEMENT MOTIVATION, EDUCATION AND LOCATION IN ECONOMIC GROWTH AND CHANGE

Achievement Motivation and Education of Urban Migrants

Earlier chapters devoted to discussions of theory suggest that variations in achievement motivation between subgroups of the sample population should be hypothesized.

Hypothesis 1. If a person with high $n$ Achievement usually is concerned with accomplishment or success in the activities in which he participates; looks for areas for attaining this satisfaction; is innovative and will take moderate risks; is not satisfied with traditional risk-free tasks, then, men who have ventured to migrate and live in a non-Navaho city, where they participate in non-traditional economic activities, should show a stronger need for achievement than the remaining population outside the city.

A measure of achievement motivation was obtained by scoring the four picture Thematic Apperception Test (TAT) for achievement imagery. Table 4.1 presents $n$ Achievement scores obtained from men in all three areas. These scores range from zero $^1$ (indicating a relatively low achievement motive) to fourteen (indicating a relatively high achievement motive). Previous research suggests that, considering the accuracy involved, $n$ Achievement scores are best divided into two categories (High and Low), and are usually divided into no
more than three categories (High, Middle, and Low) for testing hypotheses. For testing the foregoing hypothesis the data were divided into two categories of n Achievement scores -- High and Low. The median n Achievement score for the combined sample from all three areas was three, and the most equitable division of the combined population was obtained by putting scores of zero to two in the Low category and three or more in the High category.

Table 4.2 shows that Hypothesis 1 is validated. The chi square test indicates that the probability (p) is less than 0.0005 that these n Achievement scores of the Navaho city and non-city dwellers came from the same random population of scores. That is, the null hypothesis of no difference in median n Achievement scores between the two sub-samples is rejected.

Not only should there be variations in n Achievement among the various groups sampled, but levels of education should also vary between groups.

Hypothesis 2. If education and training in American non-Navaho schools equip a person with vocational skills, language abilities and general knowledge essential for participating in non-traditional economic activities in American urban-industrial society, then, it is hypothesized that those men who migrate to and live in the city have more years of education, where they can acquire these skills and this knowledge.
TABLE 4.1

**n ACHIEVEMENT SCORES BY RESIDENCE AND FOR COMBINED SAMPLE**

<table>
<thead>
<tr>
<th>n Achievement Scores</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
<th>Combined Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>13</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
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<td>4</td>
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<td>2</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>35</td>
<td>37</td>
<td>30</td>
<td>102</td>
</tr>
</tbody>
</table>

TABLE 4.2

**RELATIONSHIP BETWEEN n ACHIEVEMENT SCORES AND URBAN RESIDENCE**

<table>
<thead>
<tr>
<th>Residence</th>
<th>n Achievement Scores</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-2</td>
<td>3 or more</td>
<td></td>
</tr>
<tr>
<td>Gallup</td>
<td>7</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Non-urban</td>
<td>38</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>

χ²=11.1; p < 0.0005; 1 df
Table 4.3 gives the number of years of education for Navaho men by their location of residence when interviewed. It was decided to present the data on education by total years of schooling rather than grade completed because 1) most men could remember the number of years they went to school, but not the grade completed; 2) some men went to school under a special program where there were no grades, or 3) they went to school for special training where, again, there were no grades.

Hypothesis 2 is accepted on the basis of data shown in Table 4.4. When the total sample is divided at the approximate median for years of education those in Gallup have a significantly higher median level of education than those living outside the city. As expected, greater achievement motivation and education characterize those men who made the move to Gallup. This gives rise to other questions and hypotheses, such as, what is the relationship between n Achievement and education.

Relationship Between Achievement Motivation and Education

Almost all men living in Gallup were high in level of education and/or achievement motivation. As a result, only one of the thirty-one men in the combined sample below the median level in both characteristics lived in the city (see Table 4.5). Since high education and n Achievement were found among men in Gallup and low education and n Achievement were more prevalent outside the city, these two variables
### TABLE 4.3

EDUCATION BY RESIDENCE AND FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>Education, years in school</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
<th>Combined Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>16</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>35</td>
<td>37</td>
<td>30</td>
<td>102</td>
</tr>
</tbody>
</table>

### TABLE 4.4

RELATIONSHIP BETWEEN EDUCATION AND URBAN RESIDENCE

<table>
<thead>
<tr>
<th>Residence</th>
<th>Education, years in school</th>
<th>Low 0-5</th>
<th>High 6 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallup</td>
<td></td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Non-urban</td>
<td></td>
<td>46</td>
<td>21</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 19.9; \ p < 0.0005; \ 1 \ \text{df} \]
might be correlated. This relationship could also be postulated on theoretical grounds.

Hypothesis 3. A statistically significant correlation should occur between Achievement score and years of education among Navaho men for at least one or both of the following reasons: 1) the learning of a foreign language, and the acquisition of knowledge and skills in foreign surroundings, by a person from a traditionally non-literate group, requires personal motivation with a very strong concern for accomplishment—that is, a personality high in achievement motivation; \(^8\) and 2) as a Navaho continues his education and training in non-Navaho American schools or surroundings, it is possible that increased accomplishment and success at school will lead to increasing levels of achievement motivation.

Obviously other factors are related to these two variables. Educational opportunities were not equally available to all these men when they were of school age. But if a family wished to send a child to school this was usually possible. On the other hand, the Government did, at times, force children to school, although it was not easy to force a child to school if the family would not relent. These families often hid their children, or if a child was taken to school he frequently ran away—as many did anyway, whether forced to school or not. Also, individual intelligence; a family's or child's value for education; adaptability and reaction to new
environments; and the behavior of non-Navahos in the new environment, all enter into level of education attained. The last two factors are important because almost all informants went away to a boarding school. Only recently have public schools and buses come to the Reservation. Despite these other factors, or in some instances also because of them, it is expected that education and achievement motivation will be positively correlated.

The Spearman rank correlation coefficient for years in school and \( n \) Achievement score is shown for men in each area and for the total sample in Table 4.6. Correlation coefficients range from about 0.2 to 0.3 for each separate location of residence and they are statistically significant at the five percent level in each area except for the community of Turquoise Valley. For the total sample, including all men interviewed, Hypothesis 3 is accepted. The correlation coefficient is 0.44, which is statistically significant at the 0.05 percent level.

Overall the data show a fairly high degree of association between years of education and \( n \) Achievement scores, but lower levels of association are apparent within the three areas studied. This can be explained in part as a result of selective migration which favors men with more education and achievement motivation. Even so, in the city sample, where education and \( n \) Achievement were at a high level, the range was still broad enough to produce the highest correlation
TABLE 4.5

ASSOCIATION BETWEEN \( n \) ACHIEVEMENT SCORES AND EDUCATION
BY RESIDENCE AND FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>Education, years in school</th>
<th>( n ) Achievement Scores</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gallup</td>
<td>Neartown</td>
<td>Turquoise Valley</td>
<td>Combined Sample</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low 0-2 3 or more Total</td>
<td>Low 0-2 3 or more Total</td>
<td>Low 0-2 3 or more Total</td>
<td>Low 0-2 3 or more Total</td>
<td></td>
</tr>
<tr>
<td>High 6 or more</td>
<td>6 22 28</td>
<td>5 6 11</td>
<td>3 7 10</td>
<td>14 35 49</td>
<td></td>
</tr>
<tr>
<td>Low 0-5</td>
<td>1 6 7</td>
<td>15 11 26</td>
<td>15 5 20</td>
<td>31 22 53</td>
<td></td>
</tr>
<tr>
<td>Sub-total</td>
<td>7 28</td>
<td>20 17</td>
<td>18 12</td>
<td>45 57</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 4.6
SPEARMAN RANK CORRELATION COEFFICIENT ($r_s$) FOR ACHIEVEMENT SCORE AND YEARS OF EDUCATION BY RESIDENCE AND FOR TOTAL SAMPLE

<table>
<thead>
<tr>
<th>Location</th>
<th>$r_s$</th>
<th>$t$</th>
<th>$p$ (one-tailed test)</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallup</td>
<td>+0.31</td>
<td>1.85</td>
<td>&lt;0.05</td>
<td>33</td>
</tr>
<tr>
<td>Neartown</td>
<td>+0.29</td>
<td>1.74</td>
<td>&lt;0.05</td>
<td>33</td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>+0.20</td>
<td>1.06</td>
<td>&gt;0.10 (N.S.)</td>
<td>28</td>
</tr>
<tr>
<td>Total Sample</td>
<td>+0.44</td>
<td>5.04</td>
<td>&lt;0.0005</td>
<td>106</td>
</tr>
</tbody>
</table>

1) Has been corrected for tied observations.
2) Not including two men who have in-migrated, thereby lowering this coefficient since both were above the median level for each variable.
3) Total Sample is everyone interviewed and includes entrepreneurs of Chapter 8.
coefficient. However, variations in the acceptance of education in non-urban areas somewhat influenced results there. It will be shown that in the past going to school became accepted behavior slightly earlier in Turquoise Valley. Therefore, more men with low \( \pi \) Achievement attended school in Turquoise Valley apparently resulting in a lower correlation coefficient.

Since these characteristics of Navaho men are significantly correlated and not homogeneously distributed throughout the areas sampled, it would be desirable to indicate which factor, achievement motivation or education, was more important for Navaho economic growth and for Navaho participation either in the non-Navaho urban economy or in non-traditional economic activities. It would also be worthwhile to investigate any causal relation existing between the two variables, education and \( \pi \) Achievement. A closer look at the former relationships will be attempted first. A discussion of possible causal relationships will be considered in the next chapter.

**Effect of Achievement Motivation and Education Outside the City**

Analysis of the urban population provided no indication of which variable, education or achievement motivation, was more important (Table 4.5) for moving to the city and taking part in its local or regional economy. An estimate of the relative significance of each will have to be made by indirect means.\(^{11}\) Turning to the population of men sampled in
Neartown, several sub-hypotheses follow naturally from Hypotheses 1 and 2.

Hypothesis 4. Men living near the city who compete in the urban economy, or who have worked at one time in the city, should display a stronger achievement than the remaining Neartown population.

Hypothesis 5. These same men in Neartown who work or have worked in the city should have a higher level of education than the rest of the sampled population. With their background and knowledge they should be able and capable of working in such an environment.

On the basis of the data presented in Table 4.7 Hypothesis 4 is accepted. However, Table 4.8 indicates that Hypothesis 5 should be rejected, or the null hypothesis, predicting no difference in education between the two groups, should be accepted. These results imply that men in Neartown were more likely to participate in urban economic activities if they had high achievement motivation, rather than if they had more education. Among those men without high achievement motivation, many worked in the larger regional non-Navaho economy (e.g., on the railroad, in construction, agriculture or forestry), but they worked at jobs with groups of companion Navaho laborers and hence little risk or innovation was involved.

Moving from Neartown back to the relatively inaccessible Reservation community of Turquoise Valley presents a
### TABLE 4.7

RELATIONSHIP BETWEEN \( n \) ACHIEVEMENT SCORES OF CITY WORKERS AND REMAINING POPULATION, FOR NEARTOWN

<table>
<thead>
<tr>
<th>( n ) Achievement Scores</th>
<th>City Workers</th>
<th>Remaining Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low, 0-2</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>High, 3 or more</td>
<td>13</td>
<td>4</td>
</tr>
</tbody>
</table>

\( \chi^2 = 14.2; \ p < 0.0005; \ 1 \text{df} \)

### TABLE 4.8

RELATIONSHIP BETWEEN EDUCATION OF CITY WORKERS AND REMAINING POPULATION, FOR NEARTOWN

<table>
<thead>
<tr>
<th>Education, years in school</th>
<th>City Workers</th>
<th>Remaining Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low, 0-2</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>High, 3 or more</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

\( \chi^2 = 0.65 \) \ N.S.

(Note: The categories for Low and High \( n \) Achievement scores remained the same (0-2, and 3 or more) since this lies very close to the community median. However, High and Low categories for years of education were changed to accurately reflect community range of education.)
problem in testing Hypotheses 4 and 5. Economic opportunities were simply not as available for men in this area. Also, men who had relatively high \( n \) Achievement scores and more years of education were very young, and all were unmarried or only recently married.\(^{15} \) These men had not yet made a decision about leaving the community. In achievement motivation and education these younger men were similar to the urban sample. The prediction is that future urban out-migrants from Turquoise Valley would come from this group. In fact, most of these younger men had already migrated on their own to work and live for periods from several months to a few years in the non-Navaho society.\(^{16} \) It is likely that they will move again to the non-Navaho society to find jobs as older men with similar characteristics may have in the past, since so few were found in this area.\(^{17} \) Therefore, because economic opportunities are limited, only a rough estimate of the significance of \( n \) Achievement and education in obtaining jobs can be made.

Hypothesis 6. Those men living back on the Reservation who risk looking outside the community for employment or who have been employed frequently outside the community should have higher \( n \) Achievement scores than the remaining population.

Hypothesis 7. These same men not tied economically to a relatively poor and inaccessible community should be characterized by a higher level of education. The more
adequately prepared persons should be expected to take advant-
age of outside opportunities.

Tables 4.9 and 4.10 present results attempting to test these hypotheses. Histories of each informant's working experience were used to compile these results. Included in employment outside the community were jobs with the Navaho Tribe, which might require less motivation and education, depending on the job. The important element was a desire to go beyond community boundaries frequently for work, not whether a person worked in the non-Navaho economy. The results show that both \( n \) Achievement scores and level of education were higher among those who moved about in order to find employment. But, when put in the form of a statistical test, Hypothesis 6 is accepted and Hypothesis 7 is rejected. However, it should be noted that the results differ by only one man in thirty and any conclusion is quite tenuous.

Nevertheless, the data are beginning to clarify the relationship between \( n \) Achievement and education concerning their combined effect on economic activity. Those men living outside the city were more likely to participate in the urban economy and to range farther in search of jobs when cities were not easily accessible if they had a higher than average \( n \) Achievement, rather than if they had more education. This leads to the speculation that a more direct link should be found between \( n \) Achievement and the method of acquiring jobs. That is, men with higher achievement motivation should also
### TABLE 4.9

RELATIONSHIP BETWEEN **n** ACHIEVEMENT SCORES OF THOSE WHO SOUGHT OR FOUND JOBS OUTSIDE COMMUNITY AND REMAINING POPULATION, FOR TURQUOISE VALLEY

<table>
<thead>
<tr>
<th>n Achievement Scores</th>
<th>Low 0-2</th>
<th>High 3 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actively Sought or Found Jobs Outside Community</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Remaining Population</td>
<td>12</td>
<td>3</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 3.5; \ p < 0.05; \ 1 df \]

### TABLE 4.10

RELATIONSHIP BETWEEN EDUCATION OF THOSE WHO HAVE SOUGHT OR FOUND JOBS OUTSIDE COMMUNITY AND REMAINING POPULATION, FOR TURQUOISE VALLEY

<table>
<thead>
<tr>
<th>Education, years in school</th>
<th>Low 0-4</th>
<th>High 5 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actively Sought or Found Jobs Outside Community</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Remaining Population</td>
<td>11</td>
<td>4</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 2.2 \ N.S. \]
be expected to obtain employment through vigorous personal effort. They should display a desire for success in this area as well.

**Achievement Motivation and Education in Job Procurement**

Hypothesis 8. Those men with high $n_A$ Achievement scores should obtain employment through strong personal effort. It is expected that they would search out existing jobs and attempt to obtain them rather than have jobs offered to them, be assisted by others, or do nothing.

Another possibility is, of course, that education was the important variable at work. Men with more knowledge should feel competent to search out jobs and they will want to put this resource and talent to work.

Hypothesis 9. Those men with a higher level of education should show the greatest endeavor and success in finding jobs.

How current employment was obtained was asked of most men interviewed. From this information Table 4.11 was compiled showing $n_A$ Achievement scores and years of education, for above and below the approximate combined sample medians, in relation to how an informant obtained jobs held in the past year. Among those men making a concerted effort to obtain employment, higher levels of both $n_A$ Achievement scores and education seem to predominate. Those who sought and received jobs from non-Navaho employers though show a tendency for
greater achievement motivation irrespective of education.\textsuperscript{20} Where men have knowledge of possible employment some of the risk seems to disappear and men with lower achievement motivation and education apply. Among those men putting forth little or no effort in the quest for employment, the lowest education and $n$ Achievement scores are found.\textsuperscript{21} However, Hypothesis 8 is accepted by the median test with a very high level of significance ($p<0.0005$) and Hypothesis 9 is rejected (see Tables 4.12 and 4.13). Achievement motivation was a very powerful indicator of how much effort a man put into seeking employment, whereas degree of education apparently was a poor gauge of endeavor and does not provide a substitute for achievement motivation. In fact, of the seven men living in the city with low $n$ Achievement scores (0-2), only one applied on his own for a job and this was outside the city. The other men seem to have obtained their jobs largely by chance and were in Gallup through no personal effort. Nevertheless, they took advantage of existing opportunities.

So far data support the belief that achievement motivation among individual Navahos has been a significant factor in determining who participates in the economy of the non-Navaho urban society, who travels longer distances to find work when their residence is not adjacent to an urban area, and who pursues a vigorous approach in procuring jobs. Education appears to be generally a factor of less importance in these respects.
### TABLE 4.11

ASSOCIATION OF \( n \) ACHIEVEMENT SCORES AND EDUCATION WITH HOW CURRENT EMPLOYMENT OBTAINED, FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>How Informant Obtained Job</th>
<th>( n ) Achievement Scores</th>
</tr>
</thead>
</table>
|                            | \( n \) Achievement Scores | \( \) Education, \( \) years of school | \( \) Education, \( \) years of school | \( \) Sub-
|                            | Low       | High       | Low | High | Total |
| Made Strong Effort         |           |            |     |      |       |
| Applied to employer        | 0         | 4          | 6   | 9    | 19    |
| Applied to non-Navaho owner| 0         | 0          | 4   | 11   | 15    |
| Applied to employer but had knowledge of a possible job | 7 | 1 | 5 | 10 | 23 |
| Ran for political office or took exam | 1 | 0 | 0 | 1 | 2 |
| Sub-total                  | 8         | 5          | 15  | 31   |       |

<table>
<thead>
<tr>
<th>Weak Effort or Obtained Strong Assistance</th>
<th>( n ) Achievement Scores</th>
</tr>
</thead>
</table>
|                                          | \( n \) Achievement Scores | \( \) Education, \( \) years of school | \( \) Education, \( \) years of school | \( \) Sub-
|                                          | Low       | High       | Low | High | Total |
| Employer offered job, placed by school, or drafted | 3 | 3 | 0 | 2 | 8 |
| Relative or friend assisted              | 4         | 4          | 1   | 2    | 11    |
| Not have jobs past couple years (includes low income farmers and those who work only on local public works projects, requiring little effort) | 6 | 0 | 1 | 0 | 7 |
| Sub-total                                | 13        | 7          | 2   | 4    |       |

<table>
<thead>
<tr>
<th>Miscellaneous (not classified), jobs through employment office or field representatives of office or other employers</th>
<th>( n ) Achievement Scores</th>
</tr>
</thead>
</table>
|                                                                                                                  | \( n \) Achievement Scores | \( \) Education, \( \) years of school | \( \) Education, \( \) years of school | \( \) Sub-
|                                                                                                                  | Low       | High       | Low | High | Total |
|                                                                                                                  | 9         | 4          | 7   | 2    | 22    |
TABLE 4.12
RELATIONSHIP BETWEEN \( n \) ACHIEVEMENT SCORES AND HOW CURRENT EMPLOYMENT OBTAINED, FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>How Informant Obtained Job</th>
<th>( n ) Achievement Scores</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made Strong Effort</td>
<td></td>
<td>13</td>
<td>46</td>
</tr>
<tr>
<td>Weak Effort or Assisted</td>
<td></td>
<td>20</td>
<td>6</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 20.6; \ p < 0.0005; \ 1df \]

TABLE 4.13
RELATIONSHIP BETWEEN EDUCATION AND HOW CURRENT EMPLOYMENT OBTAINED, FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>How Informant Obtained Job</th>
<th>Education, years of school</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made Strong Effort</td>
<td></td>
<td>23</td>
<td>36</td>
</tr>
<tr>
<td>Weak Effort or Assisted</td>
<td></td>
<td>15</td>
<td>11</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 1.9 \ N.S. \]
A final, and more direct, estimate of the relationship between these variables and economic change and growth can be made by looking at the economic activities of the Navaho men and their income.

Achievement Motivation and Education as Related to Occupation

Only a rather qualitative discussion of occupation, or economic activity, is in order. As a corollary of previous hypotheses it would be expected that Gallup residents would have higher status occupations such as "Professional" or "Craftsman"—they are the men with the most education and achievement motivation living in areas where high status jobs are available. In Neartown there should be fewer men who have worked in higher status occupations requiring greater skill, training, and achievement motivation, but their number should be higher than in Turquoise Valley where accessibility to higher status jobs is lowest.

Table 4.14 is a breakdown of occupations by residence of informants. In addition, this table shows how the median levels of achievement motivation and years of education for the combined sample are related to occupation. As expected, the professionals and craftsmen were most numerous in Gallup. Professionals were, in fact, absent from the other two areas, and craftsmen appeared only in the Neartown sample. Higher levels of education and achievement motivation characterize professionals and craftsmen, and to a lesser degree service
TABLE 4.14
ASSOCIATION OF n ACHIEVEMENT SCORES, EDUCATION, AND RESIDENCE WITH OCCUPATIONS

<table>
<thead>
<tr>
<th>Occupations</th>
<th>Professional</th>
<th>Craftsman</th>
<th>Operative, Service Worker and Miscellaneous</th>
<th>Laborer</th>
</tr>
</thead>
<tbody>
<tr>
<td>n Achievement Scores</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
</tr>
<tr>
<td>Education</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
</tr>
<tr>
<td>Residence</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
<td>Low Low High High</td>
</tr>
<tr>
<td>Gallup</td>
<td>0 3 0 7 1 0 0 10 0 1 3 2 0 2 3 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neartown</td>
<td>0 0 0 0 0 0 0 5 2 0 1 0 2 14 4 6 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>0 0 0 0 0 0 0 0 0 2 1 1 1 10 2 3 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0 3 0 7 1 0 5 12 2 3 4 5 24 8 12 11</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) High: 3 or more; Low: 0-2
2) High: 6 or more years; Low: 0-5 years
workers, and operatives. Lower levels of these factors were found among laborers.

Within some of the occupational groupings though there was a tendency for one factor to be more prevalent. For example, among professionals attaining a high degree of education was necessary. Such education provides access to jobs with the Government and the Navaho Tribe, where preference is given to Navahos, and where those with bilingual abilities and knowledge of both Navaho and non-Navaho ways are in a better position to compete. On the other hand, craftsmen had high achievement motivation. These men were proficient in the skills of their trade, in the use of tools and machinery. Four of these eighteen men diligently learned a more traditional skill—silversmithing; the others acquired skills of the non-Navaho world. Almost all practiced their trade in the city. Among the laborers the tendency was as already described. But those with the highest achievement motivation, and often little education, found jobs in the city or travelled long distances in search of jobs. The operatives or service workers occupy a middle range group where education and achievement motivation were important, but not paramount. Only when the job was in the city did one of these factors become important—achievement motivation. So while achievement motivation and education appear related to the type of economic activities in which Navahos participate, even those unable to obtain higher levels of education or to
acquire facility with a trade showed a desire to compete in the urban economy or to widen their range of job opportunities at lower level occupations if they possessed higher achievement motivation.

Income Analysis Between Locations

As a further corollary of previously tested hypotheses and results it would be expected that urban residents would receive the highest incomes. They migrated for economic reasons and they have the education and motivation necessary for higher status occupations which can command commensurate monetary rewards. Also, the Neartown group, in comparison with those in Turquoise Valley, have greater accessibility to potential jobs in the American urban and regional economy and to Government employment offices located in the city, thereby decreasing the friction in the channel between surplus labor and available jobs. Consequently, income among Neartown residents should be greater than in the more inaccessible community of Turquoise Valley. The latter conjecture does not follow directly from the testing of previous hypotheses or results. This will, therefore, be treated as Hypothesis 10. However, there was an indication that a number of craftsmen lived near the city and that another group in Neartown participated in the urban economy. From this information it would be expected that Hypothesis 10 would be validated.
Table 4.15 presents income data for each location studied. Median and average income figures are shown for each man interviewed along with an estimate of this income on a per capita family basis. In arriving at per capita figures informants income was divided among wife and children and only occasionally other people (e.g., adopted children) when the informant contributed the majority of resources necessary for their existence. Results show that median income earned by informants in Gallup was about double the income of those in Neartown; and median income for Neartown was in turn about double that of Turquoise Valley. The differences were less exaggerated on a per capita family basis because few single persons supporting "only themselves" were found in the city.

The very large comparative income earned by Gallup men is also demonstrated in Table 4.16. The median income for men interviewed in all three areas was $2700. Of the thirty-five men in Gallup only four earned below this total median income for the year. Therefore, these men earned significantly more than the remaining population. Considering only those men interviewed outside the city, their median income was $1425, and the data presented in Table 4.17 confirms the acceptance of Hypothesis 10 at the five percent level of probability: that the men living near the city earn a statistically significant higher median income than those living in Turquoise Valley. The Neartown men were able to
TABLE 4.15

MEDIAN AND AVERAGE INCOME EARNED PER INFORMANT AND PER CAPITA IN INFORMANT'S FAMILY BY RESIDENCE AND FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>Residence</th>
<th>Income of Informants</th>
<th></th>
<th>Average, dollars</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median, dollars</td>
<td>Average, dollars</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Man Interviewed</td>
<td>Per Man Interviewed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Capita(^1) in Family</td>
<td>Per Capital(^1) in Family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallup</td>
<td>4400</td>
<td>4960</td>
<td>820</td>
<td>880</td>
</tr>
<tr>
<td>Neartown</td>
<td>2150</td>
<td>2360</td>
<td>490</td>
<td>450</td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>1060</td>
<td>1640</td>
<td>355</td>
<td>330</td>
</tr>
<tr>
<td>Combined Sample</td>
<td>2700</td>
<td>3040</td>
<td>535</td>
<td>570</td>
</tr>
</tbody>
</table>

\(^1\)Includes only what informant has contributed.
### TABLE 4.16

RELATIONSHIP BETWEEN INCOME EARNED BY INFORMANTS AND URBAN RESIDENCE

<table>
<thead>
<tr>
<th>Residence</th>
<th>Low Less than $2700</th>
<th>High More than $2700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallup</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Non-Urban</td>
<td>47</td>
<td>20</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 29.4; \ p < 0.005; \ 1df \]

### TABLE 4.17

RELATIONSHIP BETWEEN INCOME EARNED BY INFORMANTS AND NON-URBAN RESIDENCE

<table>
<thead>
<tr>
<th>Residence</th>
<th>Low Less than $1425</th>
<th>High More than $1425</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neartown</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>19</td>
<td>10</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 3.9; \ p < 0.05; \ 1df \]
work an average of thirty weeks during the year, while those in Turquoise Valley were employed only twenty-one weeks out of the year (see Table 4.18). The labor market operated much more efficiently near the city. This is reflected by the fact that in the Neartown sample fourteen jobs held during the one year period were obtained through State or Railroad employment offices found in Gallup, or their field representatives. In Turquoise Valley only three jobs were found through such community channels.

TABLE 4.18
AVERAGE NUMBER OF WEEKS INFORMANTS EMPLOYED DURING ONE YEAR PERIOD BY RESIDENCE

<table>
<thead>
<tr>
<th>Residence</th>
<th>Average Weeks Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallup</td>
<td>47</td>
</tr>
<tr>
<td>Neartown</td>
<td>30</td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>21</td>
</tr>
</tbody>
</table>

1) Includes primarily time spent in wage work and does not include time spent in farming or herding.

The men with high levels of achievement motivation and education who went to the city made the most of economic opportunities created by the external environment and their own strivings. On the other hand, those living near the city have done better economically than those living back on the Reservation with equal levels of education and achievement motivation.
Effect of Achievement Motivation and Education on Income Within Various Locations

Within each community studied it is possible that education and/or n Achievement might be important for rising to a higher level of economic well-being. For example, among those living in Gallup men with the highest education were more likely to enter occupations which could be labeled "professional." Therefore, it might be expected that men with the most education in the city would have the largest incomes. Near the city those who participated in the urban economy had n Achievement scores above the median, so it is possible that these men received the largest incomes. Although these are in part corollaries to the foregoing discussion, they do not follow directly from previous results, so that a separate hypothesis is presented.

Hypothesis 11. Within each area studied n Achievement and/or education should be related to earned income. Those men with high n Achievement scores have demonstrated a certain behavior pattern. These same men should be the ones who strive to reach higher levels of income. In contrast, it could be those with more years of schooling who would be eligible for high paying jobs--opportunities are few and those who have facility with the English and Navaho language and each way of life, through education, are in a better competitive position.
Information in Table 4.19 attempts to test the validity of different aspects of the foregoing hypothesis. Per capita family income was used as an indicator of economic well-being. The results follow, in a general fashion, the hypothesis as already stated. Among those in the city, where the median \( n \) Achievement score was 4.5 and median years of education was 9.5, those with higher levels of education received a significantly higher income \((p < 0.05)\) than those with higher levels of \( n \) Achievement. Almost all men in Gallup displayed a high degree of achievement motivation in comparison to the total sample, but within this group those men who had more education were able to command larger incomes. Of the seventeen men with high incomes there were nine professionals and six craftsmen. Among the professionals most obtained high paying jobs because there was an inadequate supply of well-educated men able to channel information between the two cultures. Their jobs included counseling and personnel work in both the Navaho and non-Navaho society, where language ability and general knowledge of both societies were important. Several of these men did not have high \( n \) Achievement scores, but they had attended college.

Those living near the city exhibited no statistically significant relationship between education or \( n \) Achievement and per capita income. However, \( n \) Achievement is a borderline case \((p \sim 0.06)\). While Neartown men were likely to take part in the urban economy if achievement motivation was above
TABLE 4.19

RELATIONSHIP BETWEEN n ACHIEVEMENT SCORES AND EDUCATION WITH RESPECT TO INFORMANT'S FAMILY PER CAPITA INCOME WITHIN EACH AREA OF RESIDENCE

<table>
<thead>
<tr>
<th>n Achievement Scores</th>
<th>Education, years</th>
<th>Gallup Informant's Family per Capita Income</th>
<th>Neartown Informant's Family per Capita Income</th>
<th>Turquoise Valley Informant's Family per Capita Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>High ²)</td>
<td>High ³)</td>
<td>4</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>9</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

\[\chi^2_{n\text{ Ach.}}\] 0.47 (N.S.)  2.5 (p~0.06) ----

\[\chi^2_{n\text{ Educ.}}\] 4.2 (p<0.05)  0.025 (N.S.) ----

\[\chi^2_{n\text{ Ach.+Educ.}}\] ---- ---- 7.3 (p<0.005)

1) High income for Gallup: $820 or more; for Neartown: $490 or more; for Turquoise Valley: over $355. Includes only informant's contribution to family income.

2) High n Achievement Scores for Gallup: 5 or more; for Near-town and Turquoise Valley: 3 or more.

3) High education for Gallup: 10 or more years; for Neartown: 4 or more years; for Turquoise Valley: 5 or more years.

(All men who were not supporting families with their income were excluded from this table. Median levels of per capita income, n Achievement scores, and years of education were determined for each area and then these men were dropped from the sample.)

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the median, economic rewards for such action often were not much different from economic benefits earned as a laborer in the regional economy. It may require an amount of risk and desire for success to work in the city or to learn a craft, but the economic rewards were not always equal to the effort since other men had a number of risk-free high paying laborer jobs available to them.

Back in Turquoise Valley the datum was rather scant. Here though, where opportunities were severely limited, it appeared that higher degrees of education and/or achievement motivation were a definite advantage in attaining higher levels of income ($p < 0.005$). Of the men with per capita incomes above the median most held jobs that they sought on their own outside the community. The other men held relatively high paying jobs in the community (e.g., at the local school and store or as a rancher-farmer) or jobs came to them (in the form of regional railroad laborer or agricultural worker).

While high levels of $n$ Achievement appeared to be related to many aspects of economic behavior, it was not always men with the highest $n$ Achievement scores in each area who received the largest economic rewards. Opportunities for obtaining high incomes were available to numerous men in these areas despite a low level of $n$ Achievement. This was especially true in Neartown where accessibility to the American regional economy was high in comparison with Turquoise Valley. Laborers in Neartown could find employment in relatively high
income jobs. Such work often used groups of Navahos and jobs could be procured with little personal effort. Also, education in itself was sufficient for obtaining high income jobs in some areas, even though these jobs may have been acquired through outside assistance requiring little personal effort or risk.35

Concluding Comments

Economic growth as measured by income and participation in various types of economic activities was a function of achievement motivation, education, and location among the Navaho men studied.

Achievement motivation evidently was an important element in determining which men migrated to the city and participated in non-traditional economic activities, thereby earning the highest incomes; which men were in higher status skilled jobs; which men living near the city came into the city to take advantage of job opportunities; who in the least accessible area ranged farthest in search of employment; which men took vigorous action in seeking jobs, thereby creating their own opportunities; which stock and crop raisers received the most income from their labors; and which men outside the city tended to have higher per capita family incomes.

Education was a significant factor in determining who came to live in the city and work where they earned high incomes; who obtained the jobs in the professional category and
a few of the more technically skilled jobs; and who within the city and back on the Reservation received the highest incomes.

The effect of location as represented by an American city was also important. It provided numerous job opportunities, many of them above the status of laborer, for Navaho men living there. The city also furnished job opportunities for men living near the city: directly for those men with high achievement; and indirectly by being a focus for employment offices and other agencies offering employment in the larger regional and national economy for those with lower levels of achievement motivation. By providing these opportunities men living in the city were able to earn the highest incomes, and those living near the city earned substantially more than men in the relatively inaccessible community.

At this point in the analysis it would be difficult to pick one variable as the most significant. Both education and achievement motivation appear to be important factors in economic growth and change: achievement motivation for learning more technical skills of business and industry and education for assuming professional roles in government and industry. Both contribute to economic growth in terms of income, but education, especially at the higher levels, seems to pay the greatest dividends. However, for sustained Navaho economic growth it would appear that achievement motivation is the most
important factor, especially when the job market suffers from a labor surplus. These men have learned new technical skills and can compete for any number of jobs in a modern economy, Navaho or non-Navaho. On the other hand, some of the highly educated men with professional occupations often fill special jobs created because of a need for bilingual men who can communicate with both the Navaho and non-Navaho society. Technical skills are scarce among this professional group and as Navahos continue to change, the need for their services should decline relative to the demand for more technical personnel. These men may be least adaptive to a changing economy. But most important of all, achievement motivation seems to be a deciding factor in obtaining employment—in seeking and acquiring jobs through strong personal effort. This behavior is most likely to increase income and lead to further changes in economic activities. And these men have the greatest assurance of an income irrespective of conditions in the local or regional economy.

But it would be short-sighted to hold to the view that economic change and growth in these areas has been the result of any one variable. The results do suggest, however, that past researchers who have neglected the significance of social, psychological and cultural factors, and other variables more directly concerned with human behavior and resources when considering some of the problems of economic growth and change, have erred in their analyses. For example, those who have
emphasized the significance of capital investment, particularly within a locational matrix which is urban-industrial in context have done so with a picture of the process of economic change which is one dimensional. Results from Navaho society indicate that the men drawn to these areas from the hinterland for work and residence will be men with very special personalities and talents. The fact that opportunities are accessible does not make it certain that economic change will take place. In Navaho society it was those men with high achievement motivation who made the strong effort to obtain non-traditional jobs in the urban American society; and who were the most horizontally and vertically mobile group. What was true of Navaho society might also have been true in the Southern agricultural area of the United States, on the island of Puerto Rico, or in Southern Italy: those who moved from less to more economically developed areas and who took advantage of and instigated economic change possibly were not random individuals, but were particular personality types. Under such conditions it would be wrong to think of economic growth and change as stemming from one or two variables, where, for example, the process could be manipulated by capital investment in particular urban locations. If this occurred it is likely that only a special group of people would migrate and take advantage of these developments—if these people were present in the society; and, the remaining population might be little affected by the increased
Therefore, while the process of economic change and growth hinges upon many factors, those related to human behavior and resources are of considerable importance, if not preëminent.
CHAPTER 5
FACTORS INFLUENCING ACHIEVEMENT MOTIVATION AND EDUCATION

Achievement motivation and education are important components in the process of Navaho economic participation, change, and growth. Also, there is a high correlation between Achievement and education. Therefore, it would be useful to suggest some of the reasons why particular men were able to attain higher levels of education and/or Achievement. This would provide a clearer understanding of the relationship between these two variables.

A number of hypotheses have been tested to detect associations between education and Achievement scores with other variables. Rather than presenting these hypotheses formally, as in the previous chapter, this discussion will be concerned with the results of these tests.

The Influence of a City

Men moved to the city, with few exceptions, after completing their education. Consequently, urban living had not contributed substantially to increasing the level of formal education among in-migrants. It could be claimed though that urban living is important in increasing achievement motivation: that living in an American urban society, or perhaps near one, has provided a model for internalizing a drive to achieve, as well as, an environment for realizing
personal success which could reinforce this drive.

Table 5.1 shows that when \( n \) Achievement scores were divided among two or three categories based on length of residence in any urban area, no statistically significant relationship could be identified.\(^1\) Nor was the Neartown group characterized by a higher level of achievement motivation when compared with the Turquoise Valley group (see Table 5.2).\(^2\) No claim is made that the total population was sampled of a rural area (men had moved out of each area), but the Neartown sample includes several immigrants from other areas with high \( n \) Achievement scores and other residents with high \( n \) Achievement scores who probably would have moved if urban employment opportunities had not been available. Even so, \( n \) Achievement scores in the two locations vary insignificantly from one another. Apparently an important source of achievement motivation is not to be found in the urban setting either as a direct or indirect consequence of its existence. Also, it seems that the original move to the city requires a degree of achievement motivation. It is not a move made by men with low \( n \) Achievement who are weeded out at a later date. This conclusion is drawn from Table 5.1 (Alternative II),\(^3\) and from the fact that proportionally few men were found who had resided in the city four years or less. Men making the move appear to remain in the city for long periods of time. But
TABLE 5.1

RELATIONSHIP BETWEEN \( n \) ACHIEVEMENT SCORES AND LENGTH OF URBAN RESIDENCE, FOR GALLUP

<table>
<thead>
<tr>
<th>Years of Urban Residence</th>
<th>( n ) Achievement Scores</th>
<th>( \chi^2 )</th>
<th>N.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-11</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>12-28</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>( \chi^2 = 0.0 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>7-16</td>
<td>10</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>18-28</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>(No Relationship)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 5.2

RELATIONSHIP BETWEEN \( n \) ACHIEVEMENT SCORES AND NON-URBAN RESIDENCE, FOR NEARTOWN AND TURQUOISE VALLEY

<table>
<thead>
<tr>
<th>( n ) Achievement Scores</th>
<th>( \chi^2 )</th>
<th>N.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neartown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>0-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>3 or more</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \chi^2 = 0.06 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 or more</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
it was those with more years of education who survived longest in the urban environment (see Table 5.3).⁴

Men in the city with more education not only had an income advantage. They also had more knowledge of and contact with non-Navahos since most of their education was outside the Reservation. This helped them appreciably in acclimating to urban living. Men with less education were deprived of these advantages, and, while it was not always impossible to surmount this handicap, a significant number seem to disappear from the urban scene. Movement to the city required a substantial degree of achievement motivation, but education generally determined which men stayed.

While education was related to years of urban residence, the urban setting did not seem to provide a model for stimulating the adjacent population into sending their children to school and leaving them there for longer periods. Government and mission schools historically have been relatively plentiful in and around the city; whereas, in the Reservation community of Turquoise Valley there have been no schools until the past decade. But Table 5.4 shows that the city may have had a deleterious effect on transmitting education. Of the men interviewed, those living farther from the city actually acquired more education than those in Neartown, although the difference was not statistically significant.⁵
### TABLE 5.3

**RELATIONSHIP BETWEEN EDUCATION AND LENGTH OF URBAN RESIDENCE, FOR GALLUP**

<table>
<thead>
<tr>
<th>Years of Urban Residence</th>
<th>Education, Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low 0-9</td>
</tr>
<tr>
<td><strong>Alternative I</strong></td>
<td></td>
</tr>
<tr>
<td>0-11</td>
<td>11</td>
</tr>
<tr>
<td>12-28</td>
<td>6</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 3.4; p < 0.05; 1 \text{ df (one-tailed test)} \]

| **Alternative II**       |          |                 |
| 0-4                      | 7        | 1               |
| 7-16                     | 8        | 9               |
| 18-28                    | 2        | 8               |

\[ \chi^2 = 8.1; p < 0.02; 2 \text{ df (two-tailed test)} \]

### TABLE 5.4

**RELATIONSHIP BETWEEN EDUCATION AND NON-URBAN RESIDENCE, FOR NEARTOWN AND TURQUOISE VALLEY**

<table>
<thead>
<tr>
<th>Education, Years</th>
<th>Low 0-3</th>
<th>High 4 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neartown</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>12</td>
<td>18</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 0.81 \quad \text{N.S.} \]
Over the years Navahos Reservation-wide have shown a greater interest in education and have sent their children to school for longer periods. Many people, among them tribal and community leaders, have promoted education in non-Navaho schools. But from the results it seems less success was achieved in the past near the city. Possibly the non-Navaho model presented by urban society caused some fear and hesitation among the people about sending their children to school.6

In this section it was shown that location of residence or years spent in an urban area were unrelated to achievement motivation. Since, in addition, no relationship was found to exist between n Achievement and age of informants, it would be desirable to look at those years before age twenty, the lower limit set for sampling in this research project. Also, since so little has been brought to light about education—how some men attained higher levels and why it was significantly related to n Achievement scores—a look at the early years of development into an adult and family background might be relevant to this problem.

Obtaining an Education

As a start it would be of interest to note how it happened that an informant originally went to school. It might not be possible to re-create what actually happened,
but it is as important to establish how each informant recalls the event. Table 5.5 presents relationships between an informant's recollection of how this event occurred and his 
Achievement score, years of education, and parents' education.\textsuperscript{7}

Evidently achievement motivation was internalized at a relatively early age. A number of men (eighteen) were able to attend school largely through their own efforts. About half of this group ran away to school at a time when children were running in the other direction, and the rest pressured their parents or whoever raised them, until they finally consented to their education. As would be expected from their behavior, most of these men were above the median 
Achievement score,\textsuperscript{8} although they did not always obtain the level of education that might be expected. Some of these men began their education at a relatively late age (ten to fifteen years old) and after a few years of schooling several were drafted into an Armed Service, were let out of school because of age, or obtained jobs. This group displayed an early desire for achievement and had leveled their sights on education as a means to success or even possibly as an end in itself. However, age in a few instances was a handicap in completing many years of education.

The second group consisted of men who at an early age were put into school by their parents or those who raised
TABLE 5.5

RELATIONSHIP BETWEEN HOW IT HAPPENED THAT INFORMANT ORIGINALLY WENT TO SCHOOL AND INACHIEVEMENT SCORES; EDUCATION; AND PARENT'S EDUCATION, FOR TOTAL SAMPLE

How It Happened Informant Went to School

<table>
<thead>
<tr>
<th>Informant's n Achievement Score</th>
<th>Informant Motivating Force 1</th>
<th>Parents Sent With Urging 2</th>
<th>Parents Just Put In 3</th>
<th>Others Talked Parents Into Sending 4</th>
<th>Miscellaneous Reasons 5</th>
<th>No Schooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 3 or more</td>
<td>14</td>
<td>14</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>18</td>
</tr>
</tbody>
</table>

Education, Years

| High, 6 or more                  | 12                           | 17                         | 11                   | 9                                   | 6                       | 0            |
| Low, 0-5                         | 6                            | 1                          | 4                    | 6                                   | 2                       | 29           |

Parent's Education (or those who raised him)

| At least one parent went to school | 5                            | 8                          | 9                    | 3                                   | 2                       | 1            |
| None                              | 13                           | 10                         | 6                    | 12                                  | 6                       | 28           |

1) Informant ran away or put himself in school; or expressed a desire to be sent and was a motivating force in having his family send him.

2) Parents or whoever raised informant put him in school, but before doing so suggested or expressed desire for informant's education or urged him to do well.

3) According to informant, parents or those who raised him just sent him to school. Gave no further explanation.

4) Relatives, or Navaho and non-Na vaho missionaries, or Government officials talked family into sending children to school.

5) Includes some men "forced" by family or Government officials to go to school.

6) Also includes those men who were put in school in their late teens, but only attended about one year.
them. But before being sent informants were advised or urged to attend school and do well, or they were given suggestions and expressions showing a definite desire for their education. It was not surprising that only one man (out of eighteen) was below the median in years of education. Education was valued by those who raised the informant and it was passed on to him under favorable circumstances—without force. In addition, age was not a handicap, since all the men were quite young when they were sent to school. But, if the family environment was appropriate for internalizing a value for education, it would appear that it was equally favorable for developing a higher level of achievement motivation since a substantial majority of these men had high \( n \) Achievement scores. This would be expected if the behavior of those who sent each informant to school was typical of what took place in other areas of parent-child interaction: where moderately high standards of achievement and excellence were set; where the theme of self-reliance and mastery were present at an early age; and where authoritarian domination was absent. It is hypothesized that this is what took place: that how the child was sent to school reflected a general pattern of child-parent behavior conducive to the development of high levels of achievement motivation. It was not strange that this group produced men with the highest levels of education in combination with achievement motivation.
In direct contrast to this last group there were those informants sent to school by their parents, but given no further explanation. These parents apparently valued education, but were somewhat more authoritarian toward their children. The result was that a majority obtained a level of education above the median but less than half were high in achievement motivation. This group showed significantly lower \( n_{\text{Achievement}} \) scores in relation to the two groups already considered (\( \chi^2 = 3.4; p < 0.05; 1 \text{ df}; \text{ one-tailed test} \)), and their scores were similar to the remaining groups in Table 5.5.

One of these remaining groups included informants sent to school through the intercession of persons outside the nuclear family. These informants had parents without strong values for or against education, and, consequently, fewer men went on to higher levels of education. However, the number was more than half, which indicates that the opening of opportunities in itself can lead to beneficial results.

The final large grouping was informants receiving no education, or only about one year late in their teens. The value for education was probably lowest among these families. Self-reliance and mastery at an early age may not have been entirely absent, but it certainly was not directed toward education. Men with these backgrounds had the lowest \( n \)
Achievement scores, but the median level did not vary significantly from the scores of those sent to school without explanation or those reaching school through the intercession of people outside the nuclear family ($\chi^2 = 0.17; 1$ df).

The foregoing results indicate why there was a tendency for a high coefficient or correlation between $n$ Achievement scores and education, and why possibly deviations from a linear relationship occurred. Among one group a strong value for education was learned and an environment conducive for high achievement motivation was created; in another group achievement motivation was present, but education was attained only through strong personal efforts sometimes possible only as the child grew older, thereby, in some instances proving to be a handicap to higher levels of education; among another aggregation education in itself was valued, but no overall sense of success or achievement was imparted with this value; and, finally, neither a value for education, nor the motive to achieve was found to an overwhelming degree in the other group. However, the most startling result was that $n$ Achievement scores were related to how it originally happened that a man went to school. Those who pushed themselves to school or were urged by their parents had the highest scores; while those who received no urging and were merely put into school, or were put into school because of outside direction (again with no urging), or received no education had the
lowest $n$ Achievement scores ($\chi^2 = 10.0$, between these two contrasting groups; $p < 0.005$; $1\text{df}$). This suggests that achievement motivation was acquired largely before school was reached, and was a factor in determining degree of education when an opportunity to go to school was available and when age was not a handicap. But, evidently a strong valuation of education by a parent could partially overcome a lack of achievement motivation for going on in school. And frequently just having an opportunity to go to school made it possible for an informant to obtain an education above the median level.

**Achievement Motivation as a Prerequisite for Further Knowledge**

The importance of achievement motivation in advancing one's education was emphasized in the foregoing section. This is not a casual relationship and it is underscored again by data shown in Tables 5.6 and 5.7. Men who furthered their own education and continued to learn skills on the job were almost totally characterized by high $n$ Achievement scores (Table 5.6). These were also men with the highest level of education, but they continued to strive to learn more on the job and in school, when that could be managed, after they had graduated from, or left, elementary school, high school, or college.

Even among men who had received vocational training those using this training in a job were the ones with $n$
### TABLE 5.6

RELATIONSHIP BETWEEN n ACHIEVEMENT SCORES AND FURTHERING ONE'S EDUCATION AND LEARNING SKILLS, FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>n Achievement Scores</th>
<th>Men Who Showed Initiative By Taking Further Courses</th>
<th>Men Who Taught Themselves Trades or Other Skills</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 3 or more</td>
<td>9</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

1) Through their own effort after they stopped their formal education, including elementary, high school and college.

2) Usually these skills were picked up on the job by men on their own.

3) When compared with the rest of the population in the combined sample $\chi^2 = 9.2; p < 0.005; 1 df.$
Achievement scores significantly above the median \((p = 0.02;\) columns 3 and 4, Table 5.7). Also, a separate group of men not using their vocational training because they were unable to find employment in those occupations, proceeded to learn new trades on the job (see column 5, Table 5.7). All of these men had high \(n\) Achievement scores, and they were undaunted by obstacles placed in their path.

This and the fact that \(n\) Achievement scores were related to how it happened that a man went to school led to the conclusion that \(n\) Achievement was an important element in determining which Navaho men would strive to obtain the most education, make the most of the education and training they had obtained, continue to learn more skills and gain more knowledge on the job, and overcome occupational obstacles by using their talents and by personal initiative.\textsuperscript{16}

**The Family as a Source of Achievement Motivation**

Earlier discussion suggests that different levels of achievement motivation are discernible early in life and that this variation may be related to family background. Youths who ran away to school, who pressured their parents into sending them to school, or who were urged to attain an education had the highest level of \(n\) Achievement later in life.

Other evidence supports the conclusion that family background is an important element in developing achievement motivation. It has been established that the tendency to
<table>
<thead>
<tr>
<th>Residence</th>
<th>n Achievement Scores</th>
<th>Informants Who Received Vocational Training or Other Training</th>
<th>Informants Who Received Vocational Training, Not Used in Work but Using Different Trade Learned on Own</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Had Used in Work</td>
<td>Had Not Used in Work</td>
</tr>
<tr>
<td>Gallup</td>
<td>High(^2)</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Low(^3)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Neartown</td>
<td>High(^2)</td>
<td>2(^4)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Low(^3)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Turquoise Valley</td>
<td>High(^2)</td>
<td>2(^4)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Low(^3)</td>
<td>1(^4)</td>
<td>4</td>
</tr>
<tr>
<td>Combined Sample</td>
<td>High(^2)</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Low(^3)</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

(Fisher exact probability test) \( p = 0.02 \)

1) At least one year of general or specialized vocational training in a vocational school.

2) 3 or more.

3) 0-2.

4) Includes one man in each category not over thirty years old who had used his trade for only several months since going to school.
migrate was a function of achievement motivation. Table 5.8 shows that this disposition to migrate was peculiar not only to the individual with a high n Achievement score, but in most instances it was a behavior pattern also of brothers in the informant's family (p < 0.0005). The assumption is that these brothers also had considerable levels of achievement motivation, and that this was generally a family trait.

TABLE 5.8

RELATIONSHIP BETWEEN INFORMANT'S n ACHIEVEMENT SCORE AND MOBILITY OF BROTHERS, FOR COMBINED SAMPLE

<table>
<thead>
<tr>
<th>Informant's n Achievement Score</th>
<th>Number of Brothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Who Had Migrated</td>
</tr>
<tr>
<td>High, 3 or more</td>
<td>36</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>18</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 15.5; \quad p < 0.0005; \quad 1 \text{ df.} \]

To the question of why this should be a family trait there are several responses. If personality formation takes place largely in the early years—those of childhood, without specifying a limiting age—then it is reasonable to expect that children raised by the same parents, or family, in the same environment, would have a similar experience and consequently they would internalize motives and values having many resemblances. That is, in a statistical sense, the
differences between families would be measurable and significant. Moreover, among the Navahos those men with high $n$ Achievement scores, and even high levels of education, appear generally to come from a particular type of family background. One where the occupation of the father plays a prominent role.

The Influence of Family Background: Father's Occupation

Table 5.9 presents the results of relating informant's $n$ Achievement score to his father's occupation during an informant's youth. It is evident that men whose fathers worked in higher status occupations, such as professionals and tradesmen, irrespective of whether they were in traditional or non-traditional (modern) activities, had higher $n$ Achievement scores. The sons of fathers who participated in the historically valued occupations of herding and farming had about an equal chance of having a high or low $n$ Achievement score. This was also true for men whose fathers worked almost wholly in the non-Navaho regional economy. Exceptions in these groups were men who had a wealthy herdsman for a father. In this case, though there were few samples, they also received high $n$ Achievement scores. However, those men with fathers who worked as a farmer and/or herdsman and who also worked part of the time in the non-Navaho regional economy (as railroad or coal
TABLE 5.9

RELATIONSHIP BETWEEN FATHER'S OCCUPATION AND INFORMANT'S ACHIEVEMENT SCORE; INFORMANT'S EDUCATION; AND PARENT'S EDUCATION, FOR TOTAL SAMPLE

<table>
<thead>
<tr>
<th>Occupation of Father During Informant's Youth</th>
<th>Tradesman or Professional</th>
<th>Farmer &amp;/or Herder</th>
<th>Regional Laborer in non-Navaio Society</th>
<th>Died or Divorced (left family)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informant's Achievement Score</td>
<td>Traditional Med. Silver-Man</td>
<td>Non-Traditional Wealthy</td>
<td>Degree of Wealth Unknown</td>
<td>Regional Laborer in non-Navaio Society</td>
</tr>
<tr>
<td>High, 3 or more</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Informant's Education, Years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High, 6 or more</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Low, 0-5</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Parent's Education (or those who raised them)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one parent went to school</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>None</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
mine laborers, for a trading post or sawmill, or as a Government fireman, policeman, or laborer) tended to have the lowest Achievement scores. Men whose fathers died or who left the family because of divorce also were inclined to have low scores. 21

The results lead to several feasible conclusions. The greatest difference in achievement motivation was noted between men with fathers having higher status occupations when compared to men who grew up without their biological fathers or with fathers who participated economically in both societies. 22 The degree of achievement motivation acquired by a Navaho man apparently was directly related to the occupational status and job valuation, and possibly wealth, of his father. Men without biological fathers, or with fathers who moved between societies evidently were not provided with an appropriate model for internalizing the drive to succeed. 23 In the latter case, the father probably did not value the activity in which he participated very highly, and his status and wealth were undoubtedly low. Neither society provided a high degree of sustenance. This ambivalence and inability to succeed even mildly in either society was possibly internalized by the younger son beset at home by apathy and a feeling of insecurity. Occasionally these sons could follow in their father's path and even find full-time employment in the same activity in the non-Navaho
society. But they usually never succeeded in obtaining skilled employment, or obtaining jobs on their own initiative. On the other hand, men with fathers who were tradesmen, professionals, or wealthy herdsmen or farmers had a model for success: one who took pride in and valued his work; and who was rewarded by one society or the other in the form of status and wealth.²⁴ Perhaps in such a family situation child-rearing was also less authoritarian and hence more conducive to developing an achieving personality. It is more likely though that these backgrounds set an example which emphasized the importance of learning a job or trade well and developing skills. The whole atmosphere was one of succeeding occupationally, and one where a high value was placed on this activity. In such a secure environment the younger male may have felt freer to develop his own skills and he was provided with a valued goal to strive toward.²⁵

The relationship between father's occupation and informant's education was almost identical to the one concerning achievement scores (see Table 5.9). Again those men with higher status occupations in the Navaho or non-Navaho economy had sons with a higher level of education. These were families where sons showed an eagerness to attend school at an early age or were urged by their parents to attend school.²⁶ These sons attended school despite the fact that parents often had not. This was especially true among
families with traditionally Navaho occupations. On the other hand, among those fathers who were farmers or herdsmen (degree of wealth unknown) or laborers in the non-Navaho economy the level of education attained by their sons was middle range—a bout half were above the median and half below. Here, also, few parents of either sex had ever been to school. However, the educational level of sons was the lowest where the father had left the family, or where he participated in both the Navaho and non-Navaho economy for extended periods during his life.27

A family background which included a father with an occupation esteemed traditionally or one in the non-Navaho economy, especially occupations of skill and status or relative wealth, apparently was a key element in bringing forth not only a relatively high level of achievement motivation, but also of education. The family environment allowed for the development of an achieving personality and it was often directed towards education or at least no overwhelming hostilities existed toward achieving in this area. However, where sons had lost their biological father, or where a father had worked for substantial periods in both the non-Navaho and Navaho society the results were much different.

Where a father was absent a great deal of responsibility probably rested on the male heir at an early age, and education might often conflict with family survival. However, where the
father worked in both societies the problem of low valuation for job together with low relative wealth, and possible conflict in dealing with non-Navahos while working in the alien society (language itself was a barrier), may have set an informant's father and family against non-Navahos and their education. 28 Also, in both types of family the environment was hostile to the development of an achieving personality—in most cases a model of success was absent. Therefore, it would not be expected that a son would suddenly be directed toward achieving in any area of endeavor, least of all in non-Navaho education which was probably suspect and a source of conflict. 29

**Authoritarian Families: An Estimate by Residence Patterns**

The idea that those sons with low achievement motivation, and a low level of education, came out of authoritarian type families is an appealing conjecture. Unfortunately the schedule used in this study was not compatible with testing this hypothesis. However, with the evidence available a tentative confirmation of this hypothesis is suggested. Men who continued to live with their parents or older relatives in an extended family group, and therefore had probably submitted to family domination and rule throughout their life, had significantly lower n Achievement scores.

Residential or household living patterns among Navahos
spread about in the Reservation take several forms. The traditional and probably still most common pattern is the matrilocal extended family, where daughters and their husbands live with her parents. In such instances the male leaves his natal family group to take-up residence in his wife's. Another type of household pattern is where one or more sons bring their wives to live with his parents--called patrilocal. Occasionally there are also nuclear (neolocal) families--husband wife and unmarried children--living by themselves without close relatives in walking distance.

Table 5.10 shows that outside the city men who continued to live with parents or their older relatives (usually in the same camp, but at least an easy walk) had a significantly lower median $\eta$ Achievement score than men living in nuclear families or with their wife's relatives. There are at least two possible reasons for this result: 1) those with higher achievement motivation were more likely to roam and settle down outside the confines of their blood relatives; and 2) those remaining at home were subjected to family rule—that is, they were from a more authoritarian household where it is theoretically difficult to develop a personality high in achievement motivation.

Predictably those men continuing to reside within a group of their own relatives had a tendency to come from a particular type of home environment: one where the father
TABLE 5.10

RELATIONSHIP BETWEEN n ACHIEVEMENT SCORE AND FAMILY RESIDENCE PATTERNS, FOR NEARTOWN AND TURQUOISE VALLEY COMBINED

<table>
<thead>
<tr>
<th>Informant's Family Residence Pattern</th>
<th>Living With Parents or Older Kin</th>
<th>Living With In-Laws or Alone in Nuclear Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>n Achievement Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High, 3 or more</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

$\chi^2 = 5.2; \ p < 0.05; \ 1 \text{ df}$
had died or left the family, or where the father had worked in both the Navaho and non-Navaho economy for long periods during the informant's childhood (ten of the sixteen informants whose backgrounds were known). Where a father died or left a family early in a son's life a stepfather might act in a more domineering or authoritarian manner toward any existing males. He might attempt to at least control this potential rival. Or where a stepfather did not appear immediately a mother could be expected to be very demanding of a potential male provider. However, where a father participated in both the Navaho and non-Navaho economy, any disappointment he felt from low job valuation, or from insecurity in his dual occupations may have been compensated for in family domination. Or because of low wealth the family's physical needs may have required the sons' labor at an early age. Under such conditions a son may have been subjected to family rule when quite young.

With respect to education, those men living with their own relatives did not have a median level of education that differed significantly from other men, even though they tended to have fewer years of education. But usually these informants helped with stock and did not go to school, and several were actually hidden from school authorities.
Influence of Christianity

Navaho family life apparently had an extremely significant effect on the development of achievement motivation among those men interviewed. Education was also related to family background. Outside forces in the form of a non-Navaho urban community were evidently of little direct or indirect consequence in stimulating a higher degree of achievement motivation or education. However, there is at least one other outside force projected from the non-Navaho society which may effect changes in these variables, and that is the Christian religion. Missionaries have been at work on the Navaho Reservation since before the turn of the century. It is possible that indoctrination in the Christian religion could have altered some Navaho family values or practices that would effect levels of achievement motivation or education among children.

Table 5.11 shows that participation by parents or those who raised an informant in a Christian religion had no statistically significant effect on the median level of n Achievement scores or years of education attained by an informant. However, a few more informants did go further in school if their parents took part in a non-Navaho Christian religion. A slightly stronger value for education may have been inculcated by such participation. Navaho society itself, though, seems to be the prime mover in
TABLE 5.11

RELATIONSHIP BETWEEN \( n \) ACHIEVEMENT SCORE AND EDUCATION, AND RELIGIOUS AFFILIATION OF PARENTS DURING INFORMANT'S YOUTH, FOR TOTAL SAMPLE

<table>
<thead>
<tr>
<th>Informant's ( n ) Achievement Score</th>
<th>Navaho Only</th>
<th>Navaho and Christian</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 3 or more</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>26</td>
<td>20</td>
</tr>
</tbody>
</table>

\( \chi^2 = 0.15 \) N.S.

<table>
<thead>
<tr>
<th>Informant's Education, Years</th>
<th>Navaho Only</th>
<th>Navaho and Christian</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 6 or more</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Low, 0-5</td>
<td>31</td>
<td>20</td>
</tr>
</tbody>
</table>

\( \chi^2 = 1.7 \) N.S.
accommodating and adapting to outside forces.

Regarding religious teachings received by individual informants and the relationship between this and their achievement motivation and degree of schooling, the data were not as elegant. Every Navaho interviewed had been exposed to a Christian religion. And when asked what his religious preferences were, the common response was that he had no preference. Navaho ceremonies and religious participation were valued equally with Christian religious activities (see Table 5.12). However, it is probably wrong to view Navaho religion and any Christian religion as being of equal value—or on an equal level—to a Navaho. Navahos have a particular ability to compartmentalize different ends or goals, along with a behavior pattern or means to reach these goals, especially in the religious sphere. For example, Navaho religion is strongly associated with health so that a sick Navaho frequently will have a Navaho ceremony performed to assist in curing an ailment. This does not mean such a person would avoid a medical doctor, usually just the opposite, but what he would not do is look for treatment in the Christian religion. One Navaho who may have been reading an anthropologist's paper on the subject put it just this way: "I consider myself a Protestant...Navaho religion is separate. I use it for health. I use each (religion) for a different thing." In this sense each religion is on a
TABLE 5.12

RELATIONSHIP BETWEEN n ACHIEVEMENT SCORE AND EDUCATION, AND INFORMANT'S RELIGIOUS PREFERENCES, FOR TOTAL SAMPLE

<table>
<thead>
<tr>
<th>Informant's Religious Preferences</th>
<th>Prefer Navaho to Christian Religion</th>
<th>Both Religions About Equal: No Preference</th>
<th>Prefer Christian Religion to Navaho</th>
</tr>
</thead>
<tbody>
<tr>
<td>n Achievement Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High, 3 or more</td>
<td>11</td>
<td>33</td>
<td>16</td>
</tr>
<tr>
<td>Low, 0-2</td>
<td>12</td>
<td>23</td>
<td>10</td>
</tr>
</tbody>
</table>

χ² = N.S. ¹)

Education, Years

<table>
<thead>
<tr>
<th></th>
<th>Prefer Navaho to Christian Religion</th>
<th>Both Religions About Equal: No Preference</th>
<th>Prefer Christian Religion to Navaho</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 6 or more</td>
<td>11</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>Low, 0-5</td>
<td>12</td>
<td>30</td>
<td>9</td>
</tr>
</tbody>
</table>

χ² = N.S. ¹)

¹) Not significant for any combination of paired categories, or for any two categories combined and compared with the remaining category.
different level and it is impossible to obtain a preference. There were other groups though, who did show a preference for the Navaho religion, or a Christian religion. The latter group was composed almost entirely of men who participated in a Christian religion exclusively. While the question used in the schedule was unable to ascertain the degree of Christian religious training received by an individual, it did attempt to supply some information about its comparative value.

Table 5.12 presents the results of religious preferences in relation to education and n Achievement scores. There were no statistically significant relationships found in the data at the median level. There was, however, a tendency for men who favored the Christian religion to have more education. Closer examination reveals that the majority who favored the Christian religion lived in the city (fifteen); and had attained a high level of education and n Achievement. But, several of these (at least six) became strongly interested in a Christian religion subsequent to migration, and largely as a consequence of urban residence. And others (four) had grown up with little Navaho religious contact.

Over-all non-Navaho religion did not appear to be an element determining level of education or achievement motivation. However, it is difficult to reach a firm conclusion on this matter. The problem is that almost every
informant who went to school did so during a period when Christian religious teachings were still a part of the Government system of educating Navaho children. While formal religious teachings were limited to a part of an afternoon during the school week, and church services on Sunday, this might still have had some influence on personality development and values, even though Navahos were not "obligated" to attend. It is not necessary though to look for changes in achievement motivation or education as the result of receiving non-Navaho religious teachings. A strong relationship between these traits and family background has already been shown to exist— their development was perceived in terms of factors that were historically indigenous to Navaho society and family life. A final piece of evidence concerning the importance of outside religious factors on achievement motivation and level of education is shown in Table 5.13. Those men who spent most or all of their school years in Christian missionary schools did not have median \( n \) Achievement scores or years of education that differed significantly from the men who only went to public schools.\(^{34} \) The role of Christian religions appears to be a limited one in influencing the variables under consideration. But missions did provide some educational opportunities for a few men who otherwise might not have attended school.
### TABLE 5.13

RELATIONSHIP BETWEEN \( n \) ACHIEVEMENT SCORES AND EDUCATION, AND TYPE OF SCHOOL INFORMANT ATTENDED, FOR TOTAL SAMPLE

<table>
<thead>
<tr>
<th>( n ) Achievement Score</th>
<th>Informant Received Most or All Education in Mission Schools</th>
<th>Informant Received No Education in Mission Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 4 or more(^1)</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td>Low, 0-3</td>
<td>11</td>
<td>31</td>
</tr>
</tbody>
</table>

\[ \chi^2 = (\text{opposite direction to that hypothesized; N.S.)} \]

<table>
<thead>
<tr>
<th>Education, Years</th>
<th>Informant Received Most or All Education in Mission Schools</th>
<th>Informant Received No Education in Mission Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, 8 or more(^1)</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Low, 0-7</td>
<td>6</td>
<td>36</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 2.1 \quad \text{N.S.} \]

1) Changes in median levels because excluded those without an education.
Summary and Conclusions

The data support several important conclusions.

1) The level of education reached by Navaho men apparently was to a large extent dependent on their level of achievement motivation. Exceptions to this generalization evidently occurred where a strong valuation for education could be internalized, or where opportunities for attending school were non-existent. This conclusion is maintained on the basis of (a) how it happened that children were originally put into school—those with higher levels of n Achievement frequently revealed this characteristic at an early age by running away to school or persuading their parents to send them to school, or they came from the type of family conducive to the development of a personality high in achievement motivation which was directed toward receiving an education; (b) who it was that continued their education and proceeded to learn trades after ending their formal education, and who used the training received in school; and (c) the following conclusion which provides a more complete understanding of how n Achievement and education were related.

2) Early family life was probably the most significant single factor influencing the development of achievement motivation, and directly and indirectly affecting the level of education attained. Information indicated that certain
families tended to produce more male offspring who were physically mobile, a characteristic of men with high achievement motivation. Also, achievement motivation and level of education were strongly associated with a father's occupation. The most important elements seemed to be the relative status of, and rewards from, the job and where the job was located. Those men who came from families where the biological father had been absent, or where the father had no firm continuing occupation in either the Navaho or non-Navaho society, were significantly below the median level in achievement and education. There was no model for success and children were also kept from school. Results indicate (as reflected by family residence patterns) that these families may have been more authoritarian in raising informants. On the other hand, men who had fathers with high status occupations, historically valued in Navaho society or of non-traditional significance in the non-Navaho society, were the men with statistically higher levels of achievement motivation and education. A pattern of achievement was visible and informants responded by displaying an eagerness to succeed at school early in life, or were urged by their parents toward receiving an education.

3) Direct contact with external factors, such as, the city or Christianity, apparently had an unappreciable influence on achievement and Navaho education. However, while men who migrated to the city show a high level of
achievement motivation, those who remained in the city longest had spent more years in school. Schooling had prepared them for urban living.

Some social scientists have surmised that social and economic change is accomplished through the efforts of deviants in a society; others have suggested that change evolves from traditional patterns. The foregoing conclusions are most relevant to these conjectures. In Navaho society those men with higher levels of achievement motivation and education, who moved to the city, who participated in non-traditional urban activities, and who obtained skilled and technical jobs, came from typically Navaho households. They came from families who valued and worked at traditionally or historically important occupations; who participated in Navaho religion and ceremonies; and who lived on the Reservation relatively removed from non-Navaho society. Those Navahos living in the city have also maintained continuous contact with the Reservation and Navaho life. For Navahos there is no need to postulate change, particularly economic change, as the result of behavior attributed to deviants who came from families outside the main stream of Navaho thought and social life. Therefore, it is not necessary, or possible, to explain Navaho behavior by using concepts such as "withdrawal of status respect" or "denial of expected status", which might lead to "retreatism" and finally to "creativity."
No substantial changes in personality formation need be hypothesized in order to explain the transition in Navaho economic behavior. Those who were the restless Navaho innovators, or vectors of economic change, were primarily men high in achievement motivation who frequently came from families enjoying high prestige traditionally in the Navaho community. The prestige of medicine men, silversmiths and stockmen, especially wealthy ones, had not diminished over the years, and they have evidently provided a continuity and bridge to the modern technological world of urban America for many of their children. 38
NAVAHO ADAPTATION AND CHANGE

The written account of this research has been analytical in that it has attempted to quantify and separate certain elements presumably related to human behavior and economic change and growth. In the process individual behavior and characteristics have been subordinated to present a systematic picture of group action. To appreciate the unique personalities of these men would require short biographical sketches, providing a description of obstacles overcome, risks taken, and successes achieved, especially by men who lived in the non-Navaho urban society. Included in these stories would be the description of a man in his middle thirties who finished only the fourth grade in school, but who had moved throughout the Southwest, in urban and non-urban areas, learning industrial activities associated with semi-skilled, skilled, and then craftsman occupations. Still not satisfied he bet (a non-monetary wager) a friend he could obtain a job with an urban company in the communications media field. When interviewed he was a highly paid professional using his bilingual abilities in the communications industry.

Another example was a man in his thirties who went to school originally at age nine by hiding in a truck bringing children to school. His father was understanding
when he discovered what had happened. As the informant put it, "he bought me clothes, laughed, and sent me to school." Obtaining an education, though, was not easy. He had a bad ear and hearing was difficult; also, the other children chided him for his efforts. At age fifteen he went with a group of Navahos to work on Colorado farms. He was the only one who could speak English or drive a farm truck—although he could barely reach the foot pedals. A few years later he was again elected leader and overseer of fifty Navaho men when they went to work on the railroad in Kansas. In between he had worked in cities near the Reservation as painter and telephone lineman. He tried college, but could not make it financially. However, by working on his own and taking extra courses in high school after graduation he was able to become an engineering draftsman. Recently he has put some of his earnings into a cattle herd, and has been thinking seriously of starting a business.

Or as a final brief illustration from a long list, there was the informant who had to quit school because his parents were indigent and ill. Since he was the oldest of eight children, the family required his support. He still found some way to attend vocational school part time and work to support his family. But this was also interrupted, this time by World War II. However, he was able to use his vocational training advantageously in the military, reaching
one of the higher automobile mechanic grades. At the end of
the war he returned expecting to find employment as a
mechanic. No one would even interview him for such a job.
As he put it: "I started as a laborer...I had to fight my
way back up." He learned a different trade and was again
employed as a craftsman when interviewed.

Absent from these stories of success and obstacles
is an understanding of the risk and changes required of
Navaho men in making the transition to the alien society,
and of his feelings and emotions while coping with these
unique problems. Missing also is a description of the
prejudice that Navahos meet in the alien world. The
resulting discrimination is still another obstacle to over-
come and required that much more risk—the risk of failure,
of a disvaluation of personal and general Navaho customs,
ideas, and worthiness when entering, or operating in, an
alien society and economy.

While the methods of analyzing the data in earlier
chapters do not fully narrate these struggles and successes
at the most human level, that of individual experience, it
would be wrong to see this change in Navaho economic
behavior wholly in terms of obstacles, risks or achieve-
ments that might be brought out by concentrating on a few
biographical sketches. Changes have also taken place
because various opportunities have arisen outside the
individual, as shown partially in Chapters IV and V. In fact, Navaho economic change and involvement in the non-Navaho economy could be viewed in part as an effort to avoid risk. On the one hand there apparently was the internal drive for success among many of the men interviewed, especially those migrating to and living in the city. But, there was concomitant with this drive an attempt to contend with the external non-Navaho urban world in a manner that would diminish the hazards and obstacles of operating in this society. In addition, many men took advantage of economic opportunities which reduced the size of various obstacles that might otherwise have been insurmountable or too risky to attempt to overcome.

History of Moves Prior to Urban Migration

Table 6.1 provides some evidence of how cautious Navahos generally were in making the final move to the city in a sequence originating with rural existence in Navaho society. Actual moves are not shown. These were far too many and complex to chart accurately. However, the table does show different areas (including spheres of activity and locations) where Navaho informants came into contact with non-Navaho society outside their Reservation area before moving to the city. Consecutive moves within the same area of contact, and, of course, moves back to, or within, the Navaho area itself were excluded from this table. Even so,
TABLE 6.1
HISTORY OF MOVES FOR URBAN IN-MIGRANTS
BY GENERAL AREAS OF CONTACT WITH NON-NAVAHO SOCIETY OUTSIDE THE NAVAHO AREA

<table>
<thead>
<tr>
<th>Sequence of Area Moves</th>
<th>Attended School in Urban Locality 2)</th>
<th>Lived in Regional Economy</th>
<th>Where in Sequence Initially Moved Into a City to Live on Own</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Military</td>
<td>College</td>
<td>Other School</td>
</tr>
<tr>
<td>First</td>
<td>6</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Second</td>
<td>6</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Third</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Fourth</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Fifth</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sub-totals</td>
<td>13</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

Area of Contact
Just Prior to Migration Into City

|        | 2 | 5 | 1 | 8 | 6 | 6 |

1) Excluded were each actual physical move. These were too many and complex. Therefore, not shown is that eighteen of these men somewhere in this sequence returned to the Navaho Reservation before proceeding to a city and four had numerous moves on the Reservation before reaching a city.

2) Does not include eight additional men who went to a missionary or Bureau of Indian Affairs elementary or high school in an urban area. Includes all men who took post-high school work and one man attending a school for religious workers.

3) Location was close to a city where some contact was possible.

4) Lived near a city or on fringe of city and usually worked in city.

5) This includes the two men living near Gallup who migrated there from a different area and who had worked and lived in the city for many years.
Navaho men moving to a city did not ordinarily do so on the first migration from the Navaho rural area, even though the city in most instances was Gallup—a location that was part of the Navaho area.

Of eight men moving directly from the Navaho rural area to a city, three came with parents when they were teenagers or slightly younger. Of the remaining five, one man was raised by non-Navaho parents and went to high school in the city he migrated to, and two were placed in urban jobs by their high school. The data also indicate that four other men were in the city on first moves to take advantage of educational opportunities at the post-high school level. In three cases men had attended high school in the same city, and all four men found non-Navaho teachers or friends who took an interest in their lives and helped them through instruction or by bringing them into their homes. All of these examples underscore the difficulty, or special conditions existing when men made the jump directly from rural Navaho life to urban non-Navaho society—even when attending school and not actually participating in the economy on their own. Table 6.1 indicates that it was most frequently not until the third move between various activities or locations in the non-Navaho society that a Navaho man finally came to reside in a city on his own. It was necessary to sight and reach the urban target by trial and error, while slowly becoming accustomed to
operating in this alien environment and familiarizing oneself with appropriate actions for any given situation. Only after gradual adaptation was it safe to actually participate in this new environment. By this process unnecessary risk was also avoided.

These same Navaho men were ready though to take advantage of outside opportunities, such as the assistance of various benefactors already discussed. Attending missionary or Government schools in a city also provided an opportunity for adapting to the non-Navaho world. In addition, men serving in the military in most instances were provided their first continuous long term opportunity for encountering non-Navahos. It was for them a breakthrough into the non-Navaho world and one that was both helpful in making the later transition to the city and in furnishing a college education to a few men. While this initial extended outside contact helped overcome personal obstacles, it was generally followed by a period of recuperation and withdrawal from the non-Navaho society before another voyage into it was undertaken. In fact, only two of the thirteen men went from military service directly to live in a city. Even those who went to college in the city after leaving the military spent at least one year within the Reservation before venturing outside. All of these men had received at minimum several years of education prior to military duty, but it was not
sufficient experience for adaptation and a period of revitalization was required.

Several types of urban migration have been noted. The most uncommon move was directly from Navaho rural areas to American cities without any prior contact with the non-Navaho society. Usually urban migration followed one of two patterns: 1) movement from one area to another to acclimate to non-Navaho urban living before finally advancing into the city; or 2) submerged contact in the non-Navaho world in the military service or sometimes in school (such as a trade school) followed by a period of rest and readjustment before further experimentation and final movement to the city. Therefore, migration to the city to live and work was apt to be immediately preceded by living near the city, attending college in the city, or living in a non-urban environment with some urban contact (see Table 6.1). It was part of a process of becoming accustomed to the non-Navaho world and of avoiding certain risks and obstacles, while at the same time taking advantage of opportunities for economic change in the non-Navaho society.5

It would once again be wrong though, or at least incomplete, to think only in terms of opportunities offered in the non-Navaho society to many of these men. For example, Navaho society and family life itself were able to provide opportunities for the development of personalities
with higher levels of achievement motivation and they offered no militant barrier to non-Navaho education. More information about certain aspects of Navaho social life would make the process of economic change more understandable. The fact that men with high achievement motivation and more years of education came out of the main stream of Navaho society also justifies presenting information about Navaho society and family life. But this frame of reference must lie within the historic framework of Navaho and non-Navaho contact which allowed social and economic changes and opportunities to occur.

**Comments on Navaho Society**

It is not intended to present a complete picture of Navaho culture, but rather to present some salient aspects of Navaho society and family life that are compatible with the type of change that has been occurring among the Navaho. The development of personality begins with birth, and the Navaho infant is considered to have an exceptional opportunity to develop a secure and confident adult personality. Self-confidence is developed by making the child feel continually loved and valued and Navaho adult behavior toward children is characteristically consistent. During child training the boy or girl is encouraged considerably in the acquisition of skills. In later childhood and into the
teens household skills, technical skills in farming, herding, house building and leather work (for males) and responsible behavior are learned. This learning process, the transmission of knowledge from adults to children, is generally non-authoritarian and is defined frequently by a term such as "advice" as opposed to "command" or other words connoting a form of obedience to adult instruction. Also, when a child is six or seven he often receives his initial piece of property in the form of sheep which develops a sense of ownership and responsibility. And the property rights of individuals, including children, are fully respected even when they conflict with family interests. This provides early training for economic independence and responsibility. Perhaps these are some of the reasons why it is in a family that values some of the traditional methods of earning a living, while at the same time being successful in these pursuits, that a boy is able to internalize a higher degree of achievement motivation. He is able to learn more skills of an intricate nature and he is aware of their proven success; he is likely to have greater economic independence and responsibility at an earlier age and his interests are likely to be given more consideration, especially if the family is relatively wealthy; and if the father is relatively prosperous advice is likely to take precedence over command.

As the child grows older and takes his place among
adult Navahos, he learns that leadership roles in the society are not generally staked out in an authoritarian manner. The head of a family, or the larger extended family, in most cases is the person recognized as the most energetic, experienced or intelligent. Advice is also sought on the basis of these criteria, and age is merely considered as another criterion and not given precedence over others. Throughout Navaho society the preeminence of personal considerations over behavior according to formal rule is typical, of which these are examples. And prestige and influence can be attained in the community through ceremonial knowledge, oratorical skill, or wealth. Men with various occupational skills can also reach positions of distinction in the community. It is apparent once again that outlets for men with high achievement are historically available within Navaho society.

This lack of rigid formal rule or authoritarian control over individual action is evident not only in leadership roles and occupations, but in many areas of Navaho social organization. For example, Navaho political structure historically is organized so that political decisions are made informally by the group. There is no prescribed person or any individual with authority. Only the Navahos as a group exert political, as well as social control and this mechanism is informal and fluid. In other areas of Navaho social organization, researchers have shown that a great deal of flexibility exists. For example,
1) marriage preferences between particular clans are not evident; 2) no clear-cut rule is apparent concerning inheritance or who arranges marriages and receives bride-wealth since accounts vary; 3) the relationship between a man and his mother-in-law is subject to several patterns; 4) while there is a tendency for matrilocal residence, all of the various alternatives are found; 5) the composition of the local clan element is irregular; 6) the size and composition of cooperative groups beyond the size of the lineal family is not simply defined; and 7) the transmitting of ceremonial knowledge, or instruction in silversmithing to succeeding generations is subject to numerous variations.12

These are examples of flexibility which permit adaptation and change at various levels of social organization in Navaho society. Also, these variations in social life are generally free variants, as opposed to conditioned ones. In order to have actual flexibility this must be so, because if there were rules for deciding among the various "choices" the variations would be conditioned, and flexibility extremely limited.13

Undoubtedly this lack of formal rules in Navaho society and this adaptability and flexibility in social life were abetted by and consistent with a stock raising economy, and before that an economy based on hunting. The fact that
Navahos historically have lived at low densities over a relatively large area, rather than in pueblos, also provided a buffer against tightening and formalizing this structure.

With respect to values Navahos place an enormous emphasis on industry and doing one's job. And whereas there is generally stress on collective action, decision-making, and the goals of the collaterally extended family, with little preference or possibility for sustained personal autonomy, there is among Navahos sufficient respect for autonomy and individual action that these do not represent a severe constraint on change or on taking advantage of opportunities in the environment. It is these other factors which are significant and integrate the society: 1) child-rearing practices that assist in developing a secure and confident adult; 2) an early development of technical skills and economic independence and responsibility; 3) a social organization noted for its adaptability and flexibility; 4) a society without authoritarian, formal rules at all levels; and 5) a strong preference for industry. Therefore, it is not surprising that Navahos are noted for their ability to change and take advantage of opportunities, particularly since this adaptability is built into the society. The society is open to opportunities for change and it is possible in such a society to develop personalities high in achievement motivation, which
help perpetuate change and flexibility since it is these persons who take advantage of opportunities and take risks in new areas of contact and change. It is also their curiosity and imagination within the foregoing structure that allows Navaho people to borrow and adapt various economic techniques, religious ceremonies and arts. A summary of Navaho history will serve to elucidate this ability to adopt new ways. And it will serve another purpose by showing that the historical contact situation between Navahos and non-Navahos has been unique and an important factor for allowing change to be perpetuated in Navaho society.

A Summary of Modern Navaho History

Navahos arrived in the Southwest approximately a millennium ago, although archeological findings place the arrival only at some date prior to the early sixteenth century. Certain evidence, largely linguistic, suggests that the Navahos migrated south from northwestern Canada. During this pre-historic era the Navahos probably underwent a whole sequence of adaptations and adjustments to the physical environment and to nearby Indian tribes. It is probable that during the early period of existence in the Southwest Navahos learned agricultural methods from the Pueblo Indians, adding this activity to the one of hunting
and gathering. However, little is certain about this prehistoric era. During the Spanish-Mexican period of the early seventeenth century to 1846, knowledge of Navaho activity was still vague due to the sparseness of direct contact between Navahos and Spaniards, but there is sufficient information to piece together Navaho history.

Throughout this period of about two centuries significant changes took place in the Navaho way of life. Spanish domination and subjugation of Pueblo Indians at times precipitated open rebellion by various pueblos. In addition, drought and flood assailed another Pueblo group. These events caused Pueblo Indians to seek refuge with the Navahos. As a result Navahos learned not only the Pueblo arts, such as weaving and pottery-making, but also certain aspects of European technology. The greatest revolution in the Navaho economy though was caused by the introduction of horses, sheep, and goats brought to the Southwest by Spanish. Horses provided mobility for trading and increased the potential for learning by putting Navahos in contact with other Indian tribes; and goats and sheep provided a product to trade for items, such as, metal tools or other manufactured objects, and furnished a more reliable food supply. It was necessary also to take on a complex series of traits associated with this livestock raising. The whole economy was changed, which in turn provided a basis for future change and transition
to the more technical economy of the twentieth century. This small group of Navahos learned a new way of life. New opportunities presented themselves and they took advantage of them. This has been a major principle of Navaho existence. But in the instances cited they took only what they wanted, adapting it to suit their unique way of life, and intermediaries were used to transmit certain aspects of European culture. Direct contact with Europeans was limited and actual suppression by conquistadores was unknown. However, when the United States took possession of southwestern territories in 1846, the era of isolation came to an end, and a new era of contact and change began.

Warring between Pueblo Indians and Spaniards, and later between Mexicans and Americans, together with the advent of horses allowed Navahos to develop skills in raiding. Horses supplied the usual mobility and the opposed factions never presented a united front for repulsing the highly successful Navaho sorties. Navahos took booty usually in the form of sheep, goats, or horses. However, when the Americans gained complete control of the Southwest pillaging was doomed. Colonel Kit Carson and his soldiers conquered the Navahos in 1864. Eight thousand Navahos took the "Long Walk" to Fort Sumner, Texas. Confinement was a great shock to the proud, freely moving Navahos. It was a period of adversity passed on to future generations and still
remembered today. But, in 1868 Navahos, unlike many other American Indian groups, were allowed to return to their land. The original treaty limited the Navaho to 3.5 million acres—a small area when compared to what they formerly inhabited. Here again though the Navahos were historically unique. While part of their land along the edges was chewed away, largely by the railroad, the Navaho Reservation actually increased in size through the years up to 1935 when it reached its present area of about fifteen million acres.\textsuperscript{17}

The Navaho defeat at the hands of Americans was a blow to their prestige. Nevertheless, the effects were not all negative, at least from the standpoint of Navaho unity. Prior to 1868 Navahos were evidently segmented into local bands with little cohesiveness between groups. These loose, roving Navaho bands were only brought together at Fort Sumner and thereafter were treated as a unit by the United States Government and placed on a common Reservation. Tribal unity received a strong boost from this action, and this was one in a sequence of events leading toward tribal or national consciousness.

The impact on Navaho society was also softened in other ways. The Government distributed twenty-five to thirty thousand sheep and goats to the Navahos soon after they returned "home." These together with a few animals able to survive Fort Sumner provided a basis for minimal Navaho
subsistence. But then these herds started to grow. The Government had reinforced the traditionally valued activity of stockraising which resulted in relative prosperity. Estimates in 1930 and earlier in the century placed the goat and sheep count at from 1.3 to 1.8 million head; number of horses at slightly less than one hundred thousand; and head of cattle at from thirty to forty thousand. Trading was not new to Navahos, but the sale of livestock, wool, and meat, along with piños and crafts, became of notable significance in the Navaho economy. Marketing and the purchase of necessities and tools were thereby incorporated into the Navaho economy and were indispensable for subsistence. Also, by 1881 an addition to the Navaho economic base had arrived—wage work. Navaho income was still extremely low earlier in this century, but compared to previous decades the Navahos had prospered because livestock had grown in numbers. Nevertheless it was this same prosperity which spawned another calamity for the Navahos.

The United States Government had urged the Navahos to expand their flocks, but until the 1930's administration of the Reservation had been casual, or routine. The Government had adopted a laissez-faire attitude. However, the consequence of Navaho livestock expansion was over-grazing. By 1933 soil erosion had reached a critical stage. Drastic reductions in livestock were necessary if the industry
and land were to be saved from complete ruin. The resulting Government program in the 1930's was incomprehensible to Navahos, particularly in view of past Government performance. Navaho reaction was short of open conflict, but the misunderstanding between the Government and Navahos over the program produced alarm, suspicion, unrest, and severe criticism. Such practices as slaughtering animals and leaving them in fields appeared uncivilized and wasteful, even if Navahos had been paid for disposing of their livestock. Also, large stock owners frequently outmaneuvered the Government and the burden of stock reduction fell upon small stockmen. While confusion and distrust were widespread and Navahos lost part of a highly valued possession through Government intervention, the blow was again softened and the situation ameliorated by other events.

The decade of the '30's was the New Deal era in American history. Under such Federal organizations as the Civilian Conservation Corps, Agricultural Adjustment Administration, and Erosion Control Work, money for public works projects became available. In previous years Navahos had participated in wage work. The railroad employed Navahos beginning in the 1880's. Still the scale of employment in wage work was extremely small, especially in comparison with the numbers involved in these public works programs on the Reservation during the '30's and up to 1942 when the last program was terminated. The high point was
reached in 1936-37 when two million dollars a year was spent on Reservation labor. This amount compensated monetarily for losses in herd reduction and the work assisted in rehabilitating denuded land. And with World War II an economic boom came to the area around the Reservation and to the Southwest. A boom that Navahos participated in. Navahos also went all over the world in the military forces. Perhaps this time period was unmatched in Navaho history for its effect on drawing Navahos into the world outside the Reservation. It was not coincidental that during this period Navaho desire for education became widespread.

Concomitant with these events another important change came to the Navaho Reservation. In 1923 oil was discovered on Navaho lands. Income from oil and allied resources was meager following its discovery. Not until 1948 did Tribal income from oil and gas reach a million dollars. However, this income went to $5 million in 1953-1954, and reached a peak of almost $35 million in 1957 before dropping to about $12 million in 1960. This income was not parceled out to individual Navahos, instead it was held by the Navaho Tribe. While this money has been of some direct local benefit (in public works projects, or various Tribal enterprises) especially during periods of economic recession following the war, its greatest effect has been in promoting Tribal government and providing a basis for Navaho unity.\textsuperscript{18} This has been an important factor in developing a sense of national consciousness among Navahos.
The discovery of oil required the creation of a tribal body to act for the Navahos as a whole. Members of the first council in 1923 and succeeding ones down to about 1938 were hand-picked by the United States Government. In 1938 a new set of election rules were adopted for popular rule. But it has only been during the past decade or so that rapid growth in Tribal income from natural resources has meant an involuntary and automatic increase in the power exercised by the Tribal Council. As Tribal income has grown the budget and scope of Tribal government has increased, requiring Navahos to participate in all functions normally assumed by any governing body for a people. The influence of Tribal government is felt throughout the Navaho area. Natural resource discovery and extraction may not have advanced Navaho economic development very far, but it has had an influence on unifying the Navaho people and giving them a sense of self-determination—a necessary ingredient for future Navaho development.19

In summary then the modern history of Navahos has been one of change and adaptability. This adoption of new ways and techniques has generally been permissive. That is, Navahos for the most part have altered their way of life where and when they chose. In addition, their society or way of life has never been totally disvalued by an outside force and when there was widespread strain or conflict in the contact situation this was eased by concurrent events. And the fact
that the center of American population and government was distant from the Reservation helped ameliorate the impact of contact. Also, in some instances historically important Navaho activities were reinforced and encouraged by the United States. All issues considered, the Navahos have never become demoralized like other Indian groups. Their land and people have expanded since 1868, Navaho cohesiveness or unity has steadily progressed, and through the years Navahos have slowly taken advantage of economic opportunities in the region culminating in rapid economic growth in the past two decades. Navahos were not generally coerced, rather they were frequently able to establish a pace in the process of change suitable to their particular society. When Navahos were convinced of the importance of education they adopted it. And it was this historical contact situation which apparently allowed men with high achievement motivation to be the vectors and innovators of economic and social change. When historical means for attaining occupational success were blocked or no longer as rewarding, these men found new areas for achievement by availing themselves of new opportunities, thereby contributing substantially to the economic growth of recent decades. These evidently were the same type of men (those with achieving personalities) who were successful in traditional activities and who were innovators in these activities. Thus, Navaho family life and social structure
along with the unique Navaho history of contact appear to be important factors affecting Navaho economic change.

The Contact Situation: A Generalization Concerning Transition

The importance of the contact situation between two societies has been underscored. Its seriousness is well summarized by Dozier:

A crucial lesson that anthropologists have learned in the study of acculturation is that the conditions of initial contact between two societies have an important bearing on the future relations of these societies and the development of their cultural orientations. The forceful imposition of religion, ideologies and behavioral patterns by the dominant society on a subordinate one appears to be met in every case with resistance and rejection...In cases of forced acculturation where the subordinate group is not culturally annihilated, indigenous elements remain undigested along with the introduced traits; moreover, antagonistic relations tend to persist indefinitely between the two societies in contact. A permissive contact situation on the other hand, where both groups may select freely and without compulsion the cultural traits of the other, seems to stimulate cultural exchange and the maintenance of friendly relations between the two societies.

Navaho history fits nicely into this theoretical framework and Dozier's hypothesis provides a useful guide for further generalizations regarding the process of change. Leaving aside questions such as size of the two societies in contact, or their area of contact, there remains the fact that some societies have relatively rigid social structures and are marked by a lack of flexibility and adaptability in their actions. In this type of society it would be reasonable
to expect that transition to a different way of life would be improbable, or at an extremely low rate, irrespective of the contact situation itself. Barriers to the wide-spread acceptance of new ideas and of resulting changes in such a society are likely to appear insurmountable. Under these conditions it might require deviant behavior to take on new or different social and economic ways. That is, the instigators of change are apt to originate from families outside the main stream of thought and social life in that society. And it might be necessary to use a model which encompasses such concepts as, "withdrawal of status respect", "retreatism" and "creativity" in order to postulate a sequence of changes in personalities and behavior among a significant portion of people before new ideas would be accepted in this restricted society.22

On the other hand, many societies do not experience this restrictiveness in action and are characterized by a degree of flexibility for accommodating new ideas or ways. There is the added problem of defining when a society is overly rigid and fixed, thereby inhibiting it from reconciling itself to change.23 With respect to those societies sufficiently flexible to adapt themselves to new ideas or techniques, Dozier's generalization is particularly applicable, and Navahos provide a good example. Navahos are noted for their adaptability and Navaho history is
distinguished by a relative degree of permissiveness accorded to them in the contact situation, although on various occasions the situation was quite tense. Thus, the exchange of ideas and methods could take place and become widespread even though contact conditions were not always perfect. Therefore, change was slow but Navaho society was sufficiently flexible to allow men with high achievement motivation, who came from Navaho families participating in traditional Navaho activities, to succeed in alien locations and in new economic activities requiring innovation and a spirit of adventure. It was the same society that accepted formal education when it saw the value of education. It should be emphasized again that these men who received an education before its availability and value became widespread, who were characterized by high achievement motivation, and who were the ones to use new ideas, especially in the non-Navaho economy, were not outside the main stream of Navaho society. Also, their achievement motivation was not the special product of generations of personality changes. Therefore, in relatively flexible societies where the contact situation has been permissive, transition has possibly been accomplished by non-deviants motivated to succeed in new opportunity areas. Whereas, when a society noted for its flexibility was subjected to forced acculturation the loss of self-valuation and status may have resulted in a period of retreatism before
the society could participate in economic and social change, with the leadership role being assumed by a deviant group.\textsuperscript{24} But even here what is required is to show that all persons in the society were equally affected by the outside force and that the transition, when it occurred, was not the result of actions taken by a minority group who continuously participated in traditionally important activities and who were not total victims of imposed rule or ideas.\textsuperscript{25}

Returning to the question of when a society's structure is so fixed that it cannot accommodate change, several other anomalies appear. First, it is difficult to imagine a society that does not contain within its rank men of varying gradations of achievement motivation, although the total level within the society may be quite low. Degrees of success in farming, the arts, or religious activities are always discernible. The potential leaders of change, while they may be few, are available. Second, where the values of people and their ways are respected in the contact situation—where human dignity and equality are allowed to flourish at all levels of social intercourse—a climate more conducive to the transfer of ideas and techniques is created. The existence of both of these conditions can help overcome the constraints of a so-called fixed society, and given this situation, few leaders or highly skilled men motivated to achieve may be required to bring rapid changes in the form
of economic progress to the society or group when they are working together. Previous indifference to development and change can be transformed into a force for economic and social advancement. This advance need not be carried out by deviants in the society, but rather by those involved in traditional activities and ways of living.

It has been suggested that in a relatively "open" society (such as the Navaho) it is possible for those motivated to achieve to take advantage of outside opportunities and become innovators of change, even though they or their families hold secure positions within that society. Where a society is noted for its restrictiveness or lack of flexibility in the face of change, transition may be accomplished by a fairly large number of individuals deviant in that society, or outside the main stream of social life, which are the product of generations of personality change. However, where new ideas or techniques are to be transferred by contact between two societies or groups, change can be accommodated best through permissive interaction and a valuation of human dignity and equality. In such a situation opportunities for change become meaningful. Given this approach, it may also be possible to bring rapid economic and social change to societies noted for their inflexibility to change. Again deviant groups may not be required to bring about economic progress.
Achievement motivation among a group of people may be necessary for some of the economic changes considered—it was for the Navaho men interviewed. Nevertheless, it does not seem essential to postulate a series of personality changes, requiring generations, as prerequisites to attaining this motivation for societal change. Changes in behavior can be achieved by persons emerging from traditional elements in the society without vast personality changes. A sequence of developments leading to innovation and economic progress which requires generations to fulfill is not appropriate to current world-wide expectations and advancement. It is a pessimistic conceptualization which could, if taken literally, lead to apathy in all societies concerned instead of the desired progress. Probably it would be more important to determine how any given situation can be improved so that the learning of techniques, and the exchange of ideas can be promoted in a society; and how the talented human resources which are potentially the vectors for change can be most effectively harnessed in a society. In the latter instance it would be advantageous to pay particular attention to those people (and their children) concerned with traditionally, or historically, important activities, and who have shown a measure of success in performing these activities.
Chapter 7
VALUE ORIENTATIONS

It is expected that the solutions to various problems posed in the value orientations schedule to the different groups of Navahos would show considerable variation. Numerous hypotheses have been tested to discover any relationships between preferred alternatives to the questions asked and behavior among informants. Many variables have been considered in attempting to uncover relationships between values or value orientations and Navaho action. These included: location of residence; length of urban residence; education; income; occupation; location of occupation; contact with the non-Navaho society; religious preferences; age; father's occupation; achievement motivation and others. While all of these variables have been scrutinized; some general hypotheses have guided the data analysis.

Hypothesis 1. That the urban migrants would generally respond to the various questions differently than the remaining population; and favored alternatives would be patterned after American answers to the same questions, as opposed to more traditional Navaho responses. Navahos may migrate to the city because their value preferences were similar to those of the American population thereby making them uniquely suited to this environmental change or because such preferences are essential for migration or economic
change and growth, but it is hypothesized that with continued urban living any differences between Navaho and American preferences would be even less discernible.

Not only does the urban area contain Navaho men with the greatest non-Navaho contact, it also has the most educated, wealthiest, and occupationally skilled Navahos. It is expected that their responses in solving problems would not resemble traditional Navaho preferences, but rather would assume a pattern more compatible with value orientations of urban-industrial America.

Hypothesis 2. That the group of Navaho men living near the city would display preferences to the value questions unlike those of the men living back on the Reservation; and that the responses of those living near the city would show a tendency to move toward American value orientations.

There is the difficulty that the foregoing hypotheses do not apply to all questions or items covering diverse spheres of behavior, from religion to economics. Such an apriori assumption would seem reasonable, although no answer will be attempted before considering the results.

Data displaying notable or significant relationships will be presented. This presentation is question by question within each orientation area, followed by a summary for each area.
Relational Orientation Area

Item RI (Well Arrangements). Table 7.1 shows little difference in preferred responses among men living in the three different areas. In each location the Individualistic alternative was not statistically preferred over the Collateral solution. That is, in deciding who should arrange the location of a community well and who should do the work, those preferring majority rule by vote were not significantly more numerous than those wanting almost everyone to agree before starting work. But in the city both responses were statistically preferred to the Lineal alternative -- letting the older or recognized leaders from important families make the decisions. In Turquoise Valley the Individualistic response was statistically preferred over the Lineal one. In Neartown no alternative was statistically favored over any other.

One of the most important factors in producing a particular response outside the city was whether or not a man attended local political meetings. Table 7.2 indicates that when all three solutions are ranked for non-urban informants, men who attended local political meetings preferred the Individualistic alternative as their first-rank response, rather than in a second or third-rank position.
### TABLE 7.1

**SUMMARY OF RANKINGS BY LOCATION OF RESIDENCE**

#### Relational

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Ind &gt; Coll &gt; Lin</td>
<td>Ind &gt; Coll &gt; Lin</td>
<td>Ind &gt; Coll &gt; Lin*(Ind &gt; Lin)</td>
</tr>
<tr>
<td>R3</td>
<td>Coll &gt; Lin &gt; Ind</td>
<td>Coll &gt; Lin &gt; Ind</td>
<td>Coll &gt; Ind &gt; Lin</td>
</tr>
<tr>
<td>R4</td>
<td>Ind &gt; Coll &gt; Lin</td>
<td>Ind &gt; Coll &gt; Lin</td>
<td>Ind &gt; Coll &gt; Lin</td>
</tr>
<tr>
<td>R5</td>
<td>Ind &gt; Coll &gt; Lin</td>
<td>Ind = Coll &gt; Lin</td>
<td>Lin &gt; Coll &gt; Ind</td>
</tr>
<tr>
<td>R7</td>
<td>Coll &gt; Ind &gt; Lin*(Coll &gt; Lin)</td>
<td>Coll &gt; Ind &gt; Lin</td>
<td>Lin = Ind &gt; Coll</td>
</tr>
</tbody>
</table>

#### Man-Nature

<table>
<thead>
<tr>
<th>MN1</th>
<th>Over&gt;With&gt;Subj*(Over&gt;Subj)</th>
<th>Over&gt;With&gt;Subj*(Over&gt;Subj)</th>
<th>Subj&gt;Over&gt;With</th>
</tr>
</thead>
<tbody>
<tr>
<td>MN2</td>
<td>With&gt;Subj&gt;Over</td>
<td>With&gt;Subj&gt;Over</td>
<td>With&gt;Over&gt;Subj</td>
</tr>
<tr>
<td>MN3</td>
<td>Over&gt;With&gt;Subj</td>
<td>With&gt;Over&gt;Subj</td>
<td>With&gt;Over&gt;Subj</td>
</tr>
<tr>
<td>MN4</td>
<td>Subj&gt;With&gt;Over</td>
<td>With&gt;Subj=Over*(With&gt;Over)</td>
<td>With&gt;Subj&gt;Over</td>
</tr>
</tbody>
</table>

#### Time

<table>
<thead>
<tr>
<th>T1</th>
<th>Pres&gt;Fut&gt;Past</th>
<th>Fut&gt;Pres&gt;Past</th>
<th>Pres&gt;Fut&gt;Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3</td>
<td>Fut&gt;Pres&gt;Past</td>
<td>Pres=Fut&gt;Past*(Pres&gt;Past)</td>
<td>Fut&gt;Pres&gt;Past*(Fut&gt;Past)</td>
</tr>
<tr>
<td>T4</td>
<td>Past&gt;Pres&gt;Fut</td>
<td>Past&gt;Pres&gt;Fut+(Pres&gt;Fut)</td>
<td>Past&gt;Fut&gt;Pres</td>
</tr>
<tr>
<td>T5</td>
<td>Fut&gt;Pres&gt;Past*(Fut&gt;Past)</td>
<td>Pres=Fut&gt;Past</td>
<td>Fut&gt;Pres=Past</td>
</tr>
<tr>
<td>T6</td>
<td></td>
<td>Pres=Fut&gt;Past</td>
<td>Fut&gt;Pres&gt;Past</td>
</tr>
</tbody>
</table>

#### Activity

<table>
<thead>
<tr>
<th>A1</th>
<th>Doing&gt;Being</th>
<th>Doing&gt;Being</th>
<th>Doing=Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>Doing&gt;Being</td>
<td>Doing&gt;Being</td>
<td>Doing&gt;Being</td>
</tr>
<tr>
<td>A4</td>
<td>Doing&gt;Being</td>
<td>Doing&gt;Being</td>
<td>Doing&gt;Being</td>
</tr>
<tr>
<td>A6</td>
<td>Doing&gt;Being</td>
<td>Doing&gt;Being</td>
<td>Doing&gt;Being</td>
</tr>
</tbody>
</table>
TABLE 7.2

STATISTICAL RELATIONSHIPS ITEM R1

Relationship Between Attendance at Local Political Meetings and Ranking of Value Orientation Positions, for Neartown and Turquoise Valley

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Men Attending Local Political Meetings</th>
<th>Other Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind &gt; Coll &gt; Lin; or Ind &gt; Lin &gt; Coll</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>9</td>
<td>30</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.9; \ p < 0.01; \ 1 \ df \ (one-tailed test) \]

This hypothesis was tested by noting which men interviewed had attended meetings where the author was present. One or two meetings did not provide all of the information on this subject, but it was sufficient to disclose an existing trend. Also, employment or other commitments for many made attendance impossible. Evidently men who took part in community government activities were likely to feel that one's opinion, and voting on community developments, was important. In Turquoise Valley a stronger preference for the individualistic alternative (see Table 7.1) was probably possible because it was difficult not to participate in or accept local government -- there were few competing activities. Also, the local community government coordinated public works money, and since this was an important source of income in Turquoise Valley greater attendance could be
expected at these meetings. Local government was a reality and its voting methods apparently have become widely accepted. However, in Neartown there were more outside activities to conflict with community meetings; thereby proportionally decreasing its importance. Those who did not attend local political activities in Neartown tended to choose the Collateral answer for their first-rank response.\(^3\)

In summary, local political activity on the Reservation, backed by various U.S. Government agencies, has encouraged acceptance of the idea of Individual voting, and a corresponding decline in Collateral action, for reaching community decisions. While the trend was similar in the area near the city, other diversions probably have impeded total community involvement in this form of government. The group of men living in the city showed little variation in response from the other populations. The trend was to an Individualistic response, and more emphatic rejection of the Lineal alternative.

Item R3 (Family Work Relations). Working Collectively as a family unit was the preferred method of arranging family work among the urban population (see Table 7.1), and this choice was statistically significant. In other localities there was no statistically preferred solution to the problem of arranging family work, but the Collective response was most favored. As a consequence no statistically
different choices (at the five percent level) were noted when comparing preferred pairs of responses between men living in different locations. This was not true, however, when residential patterns were analyzed within non-urban localities.

One conjecture considered was that responses concerning arrangement of family work should be some function of type of family living pattern or arrangement. Therefore, datum was stratified on the basis of family structure at the point of residence. Table 7.3 shows that men living with their own relatives (usually within the same camp, but at least within easy walking distance) preferred the Collateral over the Individualistic solution, and the Lineal over the Individualistic response statistically more frequently in comparison with men living in nuclear families (wife and their children) or with in-laws. Among those living with their own relatives the Individualistic method of organizing family work was least valued. Individualism was not appreciated probably because life long methods of cooperation or recognized family leadership in the organization of work were practiced. Deviation from this value occurred only when an informant moved to live with his wife's family or resided with his own wife and children. In either case the Individualistic approach to family work arrangements, where separate nuclear
TABLE 7.3

STATISTICAL RELATIONSHIPS ITEM R3

A. Relationship Between Family Residence Patterns and Preferred Paired Responses, for Neartown and Turquoise Valley Combined

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Lives in Nuclear Family or With In-Laws</th>
<th>Lives With His Relatives</th>
<th>$\chi^2$</th>
<th>p</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind &gt; Coll</td>
<td>19</td>
<td>5</td>
<td>4.6</td>
<td>&lt;0.05</td>
<td>1</td>
</tr>
<tr>
<td>Coll &gt; Ind</td>
<td>14</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coll &gt; Lin</td>
<td>23</td>
<td>10</td>
<td>1.8</td>
<td>N.S.</td>
<td>1</td>
</tr>
<tr>
<td>Lin &gt; Coll</td>
<td>10</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ind &gt; Lin</td>
<td>23</td>
<td>4</td>
<td>11.2</td>
<td>&lt;0.001</td>
<td>1</td>
</tr>
<tr>
<td>Lin &gt; Ind</td>
<td>10</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Relationship Between Family Residence Patterns-Marriage Status and Preferred Paired Responses, for Informants Age Thirty or Less in Neartown and Turquoise Valley Combined

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Newly Married Young Men Living With In-Laws</th>
<th>Unmarried Young Men Living With Parents</th>
<th>Fisher Exact Probability Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind &gt; Coll</td>
<td>6</td>
<td>0</td>
<td>p &lt; 0.02 (one-tailed test)</td>
</tr>
<tr>
<td>Coll &gt; Ind</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Coll &gt; Lin</td>
<td>7</td>
<td>3</td>
<td>N.S.</td>
</tr>
<tr>
<td>Lin &gt; Coll</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ind &gt; Lin</td>
<td>5</td>
<td>1</td>
<td>N.S.</td>
</tr>
<tr>
<td>Lin &gt; Ind</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
families would look after their own business, became the desired choice.

Apparentiy by changing the location of familial residence, leadership and cooperation in the organization of family work relations was weakened and authority was undermined. Previous family obligations and ties were eased. When living with one's own family, leadership by the oldest able person in family work probably was often recognized and a set of obligations taken for granted. Outside this group Individualistic methods were more highly valued. These conclusions are also substantiated by results shown in Table 7.3.B. This information suggests that as young men marry and move from one type of family residence pattern to another they actually change their value preferences concerning family work relations. Newly married men (age thirty or less) living with in-laws were more Individualistic in their selections than unmarried men (age thirty or less) living with their parents. While the sample size is relatively small some of the responses are still significantly different between these two groups. Value preferences seem to change in response to variations in familial residence patterns. However, the relation of values to actual family work behavior within each setting remains unknown.
With these results the overall expectation would be that men in the city would be Individualistic in their response to this question, since they no longer lived with their parents on the Reservation. This expectation was false. As already pointed out they preferred the Collective alternative. In the urban situation men fell back on the traditionally valued Collective preference for arranging family work. This may or may not be related to actual behavior. It may represent a familiarity with old solutions to a particular problem. However, the urban Navaho man generally had frequent contact with the Reservation and their families; and they provided economic and often labor support for relatives on the Reservation. Responsibilities to the Collateral group were never completely forgotten. 7

Consensus favored the Collateral response to this question on family work relations. Notable though was the fact that outside the city other alternatives were favored over the Collateral solution depending upon a person's familial residential pattern. Preferences were apparently functions of family living arrangements, and choice largely evolved about the Individualistic and Lineal alternatives. Only in the urban setting did men show a clear-cut selection of the Collateral answer over any other solution.
Item R4 (Choice of Delegate). Replies to this question were similar to those obtained for Item R1. The order of preference was also the same in each locality (see Table 7.1). However, only the more inaccessible Turquoise Valley group displayed any significant preferences for particular responses. They strongly opposed the Lineal choice of delegates, where older important leaders would decide who represented the people. Nevertheless, no significant differences were noted when responses of men living in the three separate locations were compared.

Table 7.4.A indicates that the Individualistic method of majority rule through voting was again statistically more popular as a first-rank preference among those living outside the city who attended local political meetings. This was the procedure followed in such meetings and as a consequence it had become a norm for behavior among those active in such affairs.

Among urban dwelling men the slight preference for the Individualistic response appeared to be in part a function of the degree of contact they had with the Reservation. This value became internalized probably not so much through urban living for a number of men, as through contact with the Reservation where acceptance of voting procedures had already become a political reality. In fact, urban activities seemed to discourage acceptance of the
TABLE 7.4
STATISTICAL RELATIONSHIPS ITEM R4

A. Relationship Between Attendance at Local Political Meetings and Ranking of Value Orientation Positions, for Neartown and Turquoise Valley Combined

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Men Attending Local Political Meetings</th>
<th>Other Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind &gt; Coll &gt; Lin; or Ind &gt; Lin &gt; Coll</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>8</td>
<td>28</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.4; p \approx 0.01; 1 \text{ df (one-tailed test)} \]

B. Relationship Between Age and Ranking of Value Orientation Positions, for Gallup and Neartown Combined

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Men Under Age 39</th>
<th>Men Over Age 38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind &gt; Coll &gt; Lin; or Ind &gt; Lin &gt; Coll</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>25</td>
<td>18</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 4.3; p < 0.05; 1 \text{ df (one-tailed test)} \]
Individualistic solution to this problem. It was the younger men living in Gallup and rural Neartown who participated least in political activities found in all rural Navaho communities. These men often were in the city or elsewhere working when these activities took place, or they were busy with other interests. Of the urban sample a number of younger men had lived in the city most of their life. Consequently, Table 7.4.B shows that among men age thirty-eight or less living in these two areas the Individualistic, voting preference was chosen significantly less frequently as a first-rank response than among men over age thirty-eight. This relationship was not visible in Turquoise Valley probably because there were fewer outside activities in which younger men would be involved.

Item R5 (Wage Work). Men living in Gallup and Neartown showed little actual preference for a particular first-rank or paired alternative. But, as Table 7.1 indicates, the Lineal option (working for "a big boss") was chosen statistically more frequently than any other alternative back in Turquoise Valley. The particular solutions to this question were not a function of location though. Rather, they were related to the particular job situation in which a man was involved.

For example, it was discovered that men living outside the city who spent a large proportion of their time
in herding or farming, or in assisting their parents in this activity, preferred the Collateral answer (where men work together without their being one main boss) as their first-rank response. Working Collectively as a group was also the first-rank preference of men, irrespective of residence, who worked steadily for the Navaho Tribe (in such jobs as laborer, accountant, automobile repairman) with other Navahos in a non-supervisory capacity. Out of nineteen men in both these groups the Collateral response was elected first fourteen times.

On the other hand, two men in Tribal supervisory positions chose working on one's own as an Individual as their first-rank response. This preference was also elected by a Tribal machine operator who worked largely on his own, unhampered by a boss and where intra-group cooperation was at a low level. In fact, men with similar operative jobs (truck drivers, heavy equipment operators, and other machine type jobs requiring little supervision and cooperation) elected the Individualistic solution. This preference likewise characterized professionals or craftsmen (including religious workers, a personnel officer, radio announcer, silversmiths, a carpenter and painter) who worked largely on their own, even if only part-time. Among all these men the Individualistic answer was ranked first eighteen out of twenty-five times.
Finally, the Lineal alternative was also chosen by particular groups of men. Outside the city men who received more than half their income from public works projects (Federal and Tribal) generally chose the Lineal alternative first. These men worked in groups with one Navaho boss in charge of specific projects several weeks in length. As one Navaho commented: "That's the way we do here in public works-- one boss works best." The Lineal response was preferred also by off-Reservation laborers working in gangs consisting of other Navahos, but this time with non-Navaho bosses (almost all were railroad laborers). One other group gave precedence to the Lineal solution. These men worked in small groups, sometimes even on their own, but all were answerable to a non-Navaho. These men included construction laborers, a carpenter's and mechanic's helper, store helpers, automobile repairmen, a baker and draftsman. Some Individualistic or Collateral behavior may have been possible, however, it appears that since these men were immediately responsible to an ever present boss this was a factor in their preference for the Lineal response. The Lineal alternative was the first-rank preference twenty-seven out of forty-one times for these three groups of men.

Summarized, the results show that men who worked alone or in a supervisory capacity generally preferred
Individualism as a first-rank response. Men who worked alone or in small groups subject to a relatively high degree of direction chose Lineality as their first-rank alternative, even when these men were skilled craftsmen. This response was likewise typical of Navaho men working in larger groups with a recognized boss, regardless of whether the boss was Navaho or non-Navaoh. An example was men working on community public works programs where Navaho bosses were chosen to direct specific short-term projects. The only group of men engaged in wage work able to run counter to the foregoing preference patterns were those working in permanent, full-time jobs for the Navaho Tribe who were not in supervisory positions. Otherwise these men preferred the Collateral response as their first-rank alternative, including professionals and skilled craftsmen. In all cases these men interacted with other Navahos and may have had a feeling of working Collectively for the Navaho Tribe on a permanent basis, rather than for any particular boss on a specific short-term project, or for themselves. The only other group to prefer the traditional Collateral response were those engaged in herding and farming, traditional activities requiring some Collective action.

These interesting results indicate how closely actual job situations were related to preferences. Values
were generally compatible with behavior patterns, but particular value preferences appeared to change as a result of certain job situations and were not a factor in determining behavior. Men who normally could be expected to give an Individualistic or Lineality response did not do so when they worked for the Tribe. Also, in a community like Turquoise Valley where public works programs had been extensive for only about four years the Lineality response was already preferred by those workers. This, together with the inclusion of several railroad workers, was a dominant reason why Lineality was preferred more frequently in Turquoise Valley (as shown in Table 7.1).

A Lineal preference for this question among a particular group of Navahos may be cause for worry, except of the main theme has been the astounding adaptability/preferences to conform with an individual's job situation. While wage work has been a relatively new experience, its widespread occurrence being limited to the past two or three decades, the results show that the traditionally valued Collateral approach to work was no longer generally valid.

Item R7 (Land Inheritance). Table 7.1 shows that there was no major consensus on a particular alternative in the three locations of residence. However, the Collateral solution was the least preferred paired alternative
in Turquoise Valley, whereas, it was the most preferred one elsewhere.

In this question it was difficult to relate any particular behavior pattern of the informants to various solutions they gave to this problem of inheritance. There were some preferred alternatives by certain groups, however, the number of men involved were relatively few. It is possible that recent economic changes have caused a decline of interest in the problem of land inheritance since land is no longer a primary element in the Navaho economy. Certain preferences by particular groups, though, do underscore some changes that have been occurring. For example, a number of men still had some stake or interest in the land -- either they or their family had livestock."

First there were informants in the non-urban localities whose parents had stock. The herd belonged partially to them and they did retain some ownership rights and privileges. But principal control of stock was in parental hands. In such situations informants chose the Individualistic preference (where each child takes his share of the inherited land and does what he wants with it) as their first-rank response most frequently (nine out of sixteen times). These were often younger men, sometimes unmarried, who may have wanted to avoid family troubles by taking their share of the land and doing with it what
they pleased. As one man said: "When there's a number of people like that usually there's trouble over it -- when take own, no trouble over it."

In contrast, there were non-urban informants who owned stock, or whose family (wife and children) had stock, but they performed few associated duties and were little involved with land problems. All these men spent a large portion of time in wage work, most having full-time permanent jobs, some away from home. Consequently, the nuclear or extended family assumed primary responsibility for livestock care. Informants in this situation had an interest in land and grazing rights, but primary responsibility for associated problems fell on other family members. In these instances men preferred the Lineal response as their first-rank preference eight out of thirteen times. The oldest able person in the family may have been responsible for the care of stock and land, or in the event of any changes or problems informant's interests probably could best be protected by "the oldest able person" taking charge since they had insufficient time to devote to land and stock problems themselves. Such a person was likely to maintain the status quo and protect informant's investment.

Finally, there were men living in non-urban areas who herded their own stock and had a direct interest in
the land and its allocation. Their responses were subject to no overall pattern. Back on the Reservation in Turquoise Valley Lineality was the first-rank solution among this small group. As an older, relatively wealthy stockman put it: "Maybe one of them (the inheritors) wouldn't know how to use the land -- need one overseer." However, in Neartown the preferences shifted to Collaterality (using the land together as a family group) and Individualism.

Most men in the city were no longer involved with problems related to land. However, fourteen men had some stock on the Reservation or surrounding area. Few were burdened though with the care of these animals, and land problems were not of major importance. Nevertheless, they favored the Collateral response over any preference. This solution probably was compatible with their circumstances. An Individualistic solution could mean their land and stock would be wasted since their urban job and living precluded the use of land on their own. A Lineal solution might be acceptable if an informant was living near the land and could observe that the oldest able person was managing the land adequately, but this was not usually possible. On the other hand, by using the land together Collectively, and choosing a boss together when necessary, these men probably would be able to have any inheritance used to their best advantage.
Analysis shows responses do not fall into a simple pattern. But, if this analysis adequately reflects some of the actual trends it indicates again how Navaho values adapt to a given situation, and how an economy changing from subsistence off the land to wage work has had an influence on Navaho value preferences.

Summary of Relational Orientation Area. The overriding conclusion is that men exhibiting a particular behavior pattern also display a set of values compatible with this action. However, in those problem areas considered, preferred choices or values apparently adapted to particular situations (that is, responded to changes in action), rather than being a determinant of action. Ideally more problem areas, or spheres of behavior, should have been examined and some should have been covered more exhaustively (especially the economic activity sphere). Nevertheless, results provide an indication of how Navaho values adapt to specific conditions.

With respect to the hypotheses that those living in or near a city should show a significantly greater trend toward American values -- in this instance a preference for Individualism -- the data do not in general substantiate this conjecture. Only on one question (R5) did such a tendency develop, and this was caused evidently not by locational attributes, but by particular job
situations. Regarding the total response for this orientation, that is, all five questions, it is a bit specious to talk in these terms. The number of questions are few in number making the results hazardous to generalize from, and by combining each piece of datum a masking of relationships (discussed in the item by item analysis) occurs. With these warnings in mind Table 7.5 shows between group response differences to all questions combined, investigated using the method of analysis of variance. To keep the analysis on two dimensions only responses to pairs of alternatives are considered.  

Table 7.5 indicates little variation in the responses of Navahos living in different locations for the combined series of questions. In fact, there were no statistically significant differences. That is, by using a one-way analysis of variance differences in responses (using mean values) between all three locational groups, relative to the variation within the groups, were not sufficient to conclude that variations were statistically significant. On an aggregated basis mean values for responses of the three groups were clustered together. Men with the most education, highest incomes, greatest non-Navaho urban experience and contact were not distinguished by any notable variation in preferences. The only group tending to exhibit different responses were
### TABLE 7.5
BETWEEN GROUP DIFFERENCES FOR THE RELATIONAL SERIES
OF ITEMS, BY PAIRED RESPONSES

A. Individualism, Collaterality Dimension
The Three Communities (and Other Groups): Mean Values

<table>
<thead>
<tr>
<th></th>
<th>Neartown</th>
<th>Gallup</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Rimrock)</td>
<td>(Raised City)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coll &gt; Ind</td>
<td>Ind = Coll</td>
<td>Ind &gt; Coll</td>
<td></td>
</tr>
</tbody>
</table>

One-way Analysis of Variance of Mean Values
for the Three Communities

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>Fb/w</th>
<th>pF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>0.51</td>
<td>2</td>
<td>0.255</td>
<td>0.19</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within</td>
<td>127.40</td>
<td>93</td>
<td>1.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>127.91</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Individualism, Lineality Dimension
The Three Communities (and Other Groups): Mean Values

<table>
<thead>
<tr>
<th></th>
<th>Neartown</th>
<th>Gallup</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Rimrock)</td>
<td>(Raised City)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lin &gt; Ind</td>
<td>Ind = Lin</td>
<td>Ind &gt; Lin</td>
<td></td>
</tr>
</tbody>
</table>

One-way Analysis of Variance of Mean Values
for the Three Communities

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>Fb/w</th>
<th>pF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>0.20</td>
<td>2</td>
<td>0.10</td>
<td>0.07</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within</td>
<td>131.63</td>
<td>93</td>
<td>1.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>131.83</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C. Collaterality, Lineality Dimension
The Three Communities (and Other Groups): Mean Values

<table>
<thead>
<tr>
<th></th>
<th>Neartown</th>
<th>Turquoise Valley</th>
<th>Gallup</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Rimrock)</td>
<td>(Raised City)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lin &gt; Coll</td>
<td>Coll = Lin</td>
<td>Coll &gt; Lin</td>
<td></td>
</tr>
</tbody>
</table>

One-way Analysis of Variance of Mean Values
for the Three Communities

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>Fb/w</th>
<th>pF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>8.01</td>
<td>2</td>
<td>4.005</td>
<td>3.02</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Within</td>
<td>123.32</td>
<td>93</td>
<td>1.326</td>
<td></td>
<td>N.S.</td>
</tr>
</tbody>
</table>
men who had lived in the city beginning at an early age (in their teens or earlier). There were only five men in this group, and while results are therefore only qualitative, scales in Table 7.5 show they were more likely to prefer Individualism to any other alternative. This suggests that urban Navaho men may truly be a transitional group and their urban raised off-spring have adopted American values. These urban raised men also strongly preferred Collaterality over Lineality. In other words differences in value preferences for the relational orientation were apparent only among men being subjected continuously to non-Navaho urban values at an early age. Even men who at an early age went off-Reservation to school for most of the year and remained there through high school, did not exhibit notable variations in preferences from the remaining population.

While Navahos in all areas displayed fairly homogeneous preferences for the relational items, it need not be assumed that these preferences have remained static. Solutions to the various problems by twelve men from the Navaho Rimrock community, fifty miles from Gallup, in 1951 are shown on the various scales in Table 7.5. Sampling was not widespread and the number of men involved were not sufficient for sweeping generalizations, but the comparison suggests that the prevailing Navaho trend is toward the Individualistic preference in the items
considered. Changes in particular situations may have dictated this movement. Nevertheless, it should be noted that Collaterality was still a strong preference, it was at least on an equal footing with Individualism, and as a value it represented no great barrier to migration or economic growth and change.

**Man-Nature Orientation Area**

Item MN1 (Livestock Dying). Men living in or near the city preferred the Mastery-over-Nature (Over) alternative to the Subjugation-to-Nature (Subj) response statistically more frequently (see Table 7.1). In Turquoise Valley all responses were about equally preferred. The result was (see Table 7.6.A) that the Over alternative was favored to the Subjugation response significantly more often in Gallup or Neartown than in Turquoise Valley. That is, these men felt it was within their power to prevent losses from livestock dying, and they did not take a helpless view of such events. This relationship was associated with non-Navaho urban contact.

Table 7.6.B shows that among those fifteen Neartown men who had worked in a city at least six months, there was a decided preference for the Over as a first-rank response when considering all three solutions. Table 7.6.C indicates that this value preference probably was not a partial reason for men seeking jobs in the city.
TABLE 7.6

STATISTICAL RELATIONSHIPS ITEM MN1

A. Relationship Between Residence and Selected Preferred Paired Responses

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over &gt; Subj</td>
<td>24</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Subj &gt; Over</td>
<td>11</td>
<td>11</td>
<td>17</td>
</tr>
</tbody>
</table>

B. Relationship Between Working in City and Ranking of Value Orientation Positions, for Neartown

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>City Workers</th>
<th>Remaining Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over &gt; With &gt; Subj; or Over &gt; Subj &gt; With</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>4</td>
<td>15</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.4; \; p = 0.01; \; 1 \text{ df (one-tailed test)} \]

C. Relationship Between Length of Time Working in City and Ranking of Value Orientation Positions, for Neartown

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Worked in City Two Years or Less</th>
<th>Worked in City More Than Two Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over &gt; With &gt; Subj; or Over &gt; Subj &gt; With</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

\[ p = 0.003; \; \text{Fisher exact probability test} \]

D. Relationship Between Age and Rankings of Value Orientation Positions, for Total Combined Sample

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Under Age 39</th>
<th>Over Age 38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over &gt; With &gt; Subj; or Over &gt; Subj &gt; With</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>With &gt; Over &gt; Subj; or With &gt; Subj &gt; Over</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Subj &gt; Over &gt; With; or Subj &gt; With &gt; Over</td>
<td>21</td>
<td>8</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 8.1; \; p < 0.02; \; 2 \text{ df (two-tailed test)} \]
Those men holding the conviction that it was possible to exert some control over the environment were men who had worked in the city more than two years. Therefore, the Over value preference appeared to be an effect of working, or in some cases living, in the non-Navaho urban society.

A similar result occurred among men living in the city. Here the over-all preference was for the Over solution. Of thirty-five men, twenty chose Over as their first-rank preference when considering all three solutions. Again though length of urban contact appeared to play a part in the choice. Those living longest in the city selected Over as their first-rank preference. Evidence in both locations suggests that with extended urban contact Navahos came to believe that stock could be prevented from dying if they tried and if they used their "head". This contact tended to change men's ideas about the forces of nature. The necessity of urban contact was also reflected by Turquoise Valley responses. Preferences among men working off-Reservation for extended periods were similar to preferences of men not leaving their homes. Just contact with the non-Navaho population apparently was not sufficient to change values in this problem area, nor was education instrumental in bringing about a Mastery-over-Nature response.
At least one other element appeared to influence responses, and that was age. Younger men preferred the Subjugation-to-Nature alternative and older men the Mastery-over-Nature alternative as their first-rank response (see Table 7.6.D). With age may come the feeling of responsibility to use one's "head" to prevent certain losses, especially since older men generally had more persons dependent on their income. With age also comes the experience of dealing with problems.

The owning of, or caring for, livestock was not a factor in differentiating between various responses. Urban contact and age were the most important factors contributing to a specific response. With the available data it was not possible to separate or estimate the influence of each factor, but both elements were related to value preferences.

Item MN2 (Facing Conditions). In non-urban areas the Harmony-with-Nature (With) alternative was elected significantly more often than any other solution. In facing conditions it was important for these men to keep in harmony with the "holy people" and the forces of nature. In the city men displayed no statistically significant preference for any one response. Table 7.7.A, showing preferences by first-rank responses considering all three solutions in each locality, demonstrates this same point.
TABLE 7.7
STATISTICAL RELATIONSHIPS ITEM MN2

A. Relationship Between Residence and Ranking of Value Orientation Positions

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over &gt; With &gt; Subj; or Over &gt; Subj &gt; With</td>
<td>12</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>With &gt; Over &gt; Subj; or With &gt; Subj &gt; Over</td>
<td>13</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Subj &gt; Over &gt; With; or Subj &gt; With &gt; Over</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 9.8; \ p < 0.05; \ 4 \ df \ (two-tailed test) \]

B. Relationship Between Religious Preferences and Rankings of Value Orientation Positions, for Gallup

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Prefer Christian to Navaho Religion</th>
<th>Prefer Navaho to Christian Religion, or No Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>With &gt; Over &gt; Subj; or With &gt; Subj &gt; Over</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>12</td>
<td>9</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 2.5; \ p \approx 0.06; \ 1 \ df \ (one-tailed test) \]
Men outside the city preferred the With alternative first above any other solution, while the Gallup sample gave no special preference to any first-rank response. This apparent more random preference on the part of urban men was related to changes in their religious beliefs and their isolation from Navaho religion and life.

Among men living in Gallup fifteen said they preferred a Christian to the Navaho way, or if they had a preference it would be for such a non-Navaho religion. As would be expected working With and being in harmony With the "holy people" was not something they took for granted in their beliefs and activities, consequently only three of these men preferred the With solution as their first-rank response. Table 7.7.B shows that these results barely fall short of being statistically significant, but this suggests a major reason why the urban response pattern differed from non-urban responses. On the other hand, this same relationship was not apparent outside the city. For one thing Navaho religion and ceremonies were continuously present in these areas and the informants did participate to a degree in traditional ceremonies, even if they also held other religious beliefs. Therefore, not only was a change in religious beliefs important in producing a different pattern of responses in the city, but also the isolation of the city from Navaho religion and
natural environmental conditions also played a part in the selection of responses.  

Item MN3 (Use of Fields). Within each location the Subjected-to-Nature solution was the least preferred alternative, and these results were statistically significant (see Table 7.1). Little difference was noted in preferences for either the Harmony-with-Nature or the Mastery-over-Nature pair of alternatives in each locality. However, differences in responses did occur between localities with respect to preferences for these two alternatives. The foregoing is best summarized by Table 7.8. A showing that out of six possible complete rankings, only two were of any importance: Over>With>Subj and With>Over>Subj. The difference in rankings are statistically significant primarily because the city sample preferred the Over solution to the With; and the other areas, particularly Neartown, preferred the opposite response. Few men had any use for a solution that said men could do nothing to help crops along, but there was disagreement about whether being in Harmony-with-Nature or using new methods was the best way of treating crops and facing environmental conditions. Since only the Over and With alternatives were subject to widespread variation in order of preference, analysis will deal solely with this set of paired alternatives.
TABLE 7.8

STATISTICAL RELATIONSHIPS ITEM MN3

A. Relationship Between Residence and Ranking of Value Orientation Positions

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over &gt; With &gt; Subj</td>
<td>17</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>With &gt; Over &gt; Subj</td>
<td>8</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>10</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 10.5; \ p < 0.05; \ 4 \ df \ (two-tailed test) \]

B. Relationship Between Non-Navaho Contact and Selected Preferred Paired Responses, for Gallup

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Non-Navaho Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Over &gt; With</td>
<td>6</td>
</tr>
<tr>
<td>With &gt; Over</td>
<td>9</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 4.3; \ p < 0.05; \ 1 \ df \ (one-tailed test) \]

C. Relationship Between Religious Preference and Selected Preferred Paired Responses, for Gallup ¹)

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Prefer Christian to Navaho Religion</th>
<th>Prefer Navaho to Christian Religion, or No Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Over &gt; With</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>With &gt; Over</td>
<td>1</td>
</tr>
</tbody>
</table>

\[ p = 0.013; \ \text{Fisher exact probability test} \]

¹) Excluding men not participating in Navaho ceremonies recently.
As in item MN2 responses among urban men appeared to be related to isolation from Navaho life and a change in religious beliefs or habits regarding the attendance of Navaho ceremonies. Table 7.8.B indicates that men least involved or submerged in urban living chose the more traditional With alternative to the Over one statistically more frequently than men who had a stronger commitment to urban living. The latter group heavily favored the Over response. With respect to religious preferences there were those seven men in the city who either had not ever participated in Navaho ceremonies, or who had not done so in the past decade. All seven chose the Over alternative in preference to the With response. But even excluding the responses of these men, Table 7.8.C shows that religious preferences are related to the solutions chosen. Men preferring Christian beliefs chose the Over in preference to the With alternative, while those preferring Navaho beliefs or having no definite religious preferences selected the more traditional With solution.

As Gallup Navahos became more involved in urban living, and as they changed their traditional religious preferences in an environment relatively isolated from Navaho life and ways, they felt there was more a man could do with new methods to help conquer the environment. Nevertheless, being in harmony with nature was still valued, and even
among the group who had apparently changed their values this was a second-rank preference and not the least preferred solution.

Item MN4 (Belief in Control). Within each area solutions to this question were fairly evenly distributed. Analysis of data between localities show that Gallup men preferred the Subjugation-to-Nature response to any other paired solution, rather than the Harmony-with-Nature alternative prevalent outside the city (see Table 7.1). However, there were no statistically significant differences between the responses exhibited on the basis of residence.

The entanglement of responses and behavior in relation to this question was quite complicated. Men living in each area who had the lowest contact in jobs and in other respects with the non-Navaho society tended to prefer Harmony-with-Nature as their first-rank preference when considering all solutions. A similar trend in responses was noted among men who did not prefer a Christian religion to the Navaho way. In these two respects responses to this question resembled solutions to previous items in this orientation area. But in this instance greater contact with the non-Navaho urban area, or society in general, and a change in religious preferences did not produce value preferences that reflected a belief that natural conditions could be overcome. Even among men with more education there was an
indication that the Subjugation-to-Nature alternative was not preferred.22

Thus, as land has decreased in importance for obtaining economic rewards there apparently has been a concomitant decline in the value of being in Harmony-with-Nature for coping with natural conditions. But non-Navaho contact and education did not strengthen the belief that the forces of nature could be controlled. In fact, education appeared to have the opposite effect. The truth is that nature has never been controlled on the Navaho Reservation and education only served to magnify this reality. Also, by turning away from the land to earn an income there was no longer a substantial degree of contact with the land, or the need to deal with conditions like drought and flood.

Summary of Man-Nature Orientation Area. By combining responses to each question the various relationships apparent when analyzing each item will be lost. Nonetheless, this will be indicative of certain trends in Navaho value preferences. Table 7.9 again uses the method of paired alternatives for analyzing this data. A one-way analysis of variance statistical procedure shows no significant variation between preferred responses (measured in mean values) on the basis of residential location. However, sections A. and B. of Table 7.9 display a slight preference for the Man-over-Nature alternative among men living in the
TABLE 7.9
BETWEEN GROUP DIFFERENCES FOR THE MAN-NATURE SERIES OF ITEMS, BY PAIRED RESPONSES

A. Mastery-over-Nature, Harmony-with-Nature Dimension
The Three Communities (and Other Groups): Mean Values

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Values</th>
<th>F_{b/w}</th>
<th>PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>4.32</td>
<td>2</td>
<td>2.16</td>
<td>2.05</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within</td>
<td>99.16</td>
<td>94</td>
<td>1.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>103.48</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Mastery-over Nature, Subjugation-to-Nature Dimension
The Three Communities (and Other Groups): Mean Values

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Values</th>
<th>F_{b/w}</th>
<th>PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>0.13</td>
<td>2</td>
<td>0.065</td>
<td>0.08</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within</td>
<td>78.71</td>
<td>94</td>
<td>0.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>78.84</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Three Communities (and Other Groups): Mean Values

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Values</th>
<th>F_{b/w}</th>
<th>PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>5.31</td>
<td>2</td>
<td>2.655</td>
<td>2.4</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within</td>
<td>103.53</td>
<td>94</td>
<td>1.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>108.84</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
city. And section C. indicates urban men preferred the Sub-
jugation-to-Nature response rather than the Harmony-with-
Nature alternative. The scales show that urban dwelling men
who had the least contact with Navaho life, that is, who
seldom returned to the Reservation even to visit friends and
relatives, felt they could overcome natural environmental
difficulties. On the other hand, urban men who preferred a
Christian religion to the Navaho way did not choose the Har-
mony-with-Nature response as their favored alternative.
Part of this was due to their isolation from Navaho reli-
gion.

This information emphasizes some of the results dis-
cussed when analyzing responses to each question. For ex-
ample, as men continued to live in an urban area isolated
from Navaho life and as they adopted different religious
ways, the traditional Harmony-with-Nature concept of view-
ing "man and nature" carried less meaning and consequently
decreased in value. In addition, the belief that man could
wield some control over nature became a stronger value among
this group. But even here some further clarification is
necessary. Only on questions where man was engaged with im-
proving crops or animals (MN1 and 3) was there a belief that
he could prevent losses through personal action. However,
when it was man against the weather or other natural ele-
ments, or when he was dealing with "holy people" (MN2 and 4)
there was little thought about the possibility of controlling the natural environment. This pattern was followed in all localities.

These several considerations again suggest that values were compatible with action, and that values adapted to particular situations, rather than being determinants of action. As Navaho men took on new religious beliefs in an urban environment which could insulate them from Navaho ways their value preferences adapted over time to a new set of circumstances. Also, Navaho men showed a certain amount of realism and practicality, as well as, adaptation to existing conditions, by believing it was only in those situations where they could manipulate results that it was possible to overcome natural conditions (MN1 and 3).

In conclusion, the data showed no overwhelming differences in responses between the various localities. However, scales in Table 7.9 indicate that Navaho men may be choosing Over alternatives more frequently, and traditional With solutions less often, when results are compared with responses of the twelve men studied in the Rimrock community in 1951.23 Thus, there was an apparent move toward American values for Navaho men throughout the society. Nevertheless, the traditional Harmony-with-Nature response was a conspicuous preference, usually being chosen more frequently than the Man-over-Nature solution. This
traditional value preference apparently offered no barrier to Navaho migration, or economic change and growth, although there was a trend for this value preference to change as men took on different ways of living in the urban environment.

**Time Orientation Area**

Item T1 (Child Training). Men living in the city had definite ideas about raising children. Table 7.1 indicates the Present solution was chosen significantly more frequently than any other, followed by the Future alternative -- also preferred significantly more often than the Past response. In Neartown the Future solution was most desired; and the only response chosen statistically more often than any other. In Turquoise Valley no alternative was preferred significantly to any other. But in each area, the Past option -- teaching children well the traditions of the past -- was least preferred. Consequently, only the Future and Present paired alternatives reflected significant differences when responses between areas of residence were compared. Responses of men living in each area to this pair of alternatives are shown in Table 7.10.A. Though the results are significant it might be expected that the urban population would be strongly Future oriented. A favoring of the traditional (Present) response suggests a reaction by these men against not teaching children anything
TABLE 7.10
STATISTICAL RELATIONSHIPS ITEM T1

A. Relationship Between Residence and Selected Preferred Paired Responses

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future &gt; Present</td>
<td>10</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>Present &gt; Future</td>
<td>25</td>
<td>12</td>
<td>16</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 10.4; p < 0.01; 1 \text{ df (two-tailed test)} \]

B. Relationship Between Non-Navaho Contact and Selected Preferred Paired Responses, for Gallup

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Non-Navaho Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Future &gt; Present</td>
<td>8</td>
</tr>
<tr>
<td>Present &gt; Future</td>
<td>7</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.9; p < 0.02; 1 \text{ df (two-tailed test)} \]

C. Relationship Between Non-Navaho Contact and Selected Preferred Paired Responses, for Neartown and Turquoise Valley

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Future &gt; Present</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Present &gt; Future</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 3.6^{1)}; p \approx 0.06; 1 \text{ df (two-tailed test)} \]

1) For combined sample, Neartown and Turquoise Valley.
about past Navaho traditions (the Future solution).

Table 7.10.B shows that men in the city having the lowest contact with non-Navahos (see footnote 20 for definition) had no definite preference for either the Present or Future alternative, whereas men having the highest contact with non-Navaho society preferred the Present to the Future response. Navahos isolated in the non-Navaho urban community seem to fear a loss of tradition and want children to be taught some traditional ways, as well as, new ways.

Outside the city the relationship is different. Table 7.10.C indicates that men having high contact with the non-Navaho society have no particular preference for either the Future or Present response. These responses are similar to those of the urban group with the lowest non-Navaho contact. This would be expected since all these men maintained higher levels of contact with Navahos and non-Navahos. In contrast, although the data were not quite statistically significant outside the city, there apparently was a desire among men experiencing little contact and mingling with the non-Navaho society to cast aside some traditional ways in raising children. This was especially true among men living near the city, who though not a part of the urban society were possibly influenced by its visibly different way of life. This response pat-
tern could represent a hope on the part of men not making the transition to the non-Navaho society. A hope that by teaching their children primarily new ways they would be able to participate in the alien society's wealth that had eluded them. On the other hand, an opposite reaction occurred among some city residents. While they had relative wealth, their constant mingling with non-Navahos and isolation from Navaho society probably caused them to react against losses of traditional ways. They were reluctant to have children learn little about their Navaho heritage of which they were proud.

From this it is evident that the amount and type of contact with the non-Navaho world played an important part in how Navahos responded. Once again the particular situation was a factor in determining individual responses.

Item T3 (Philosophy of Life). This question demonstrated that Navahos often look ahead and see the future as bringing improvements or a better way of life (Future response). However, the idea that in the long run things are approximately the same and one ought to look at what is happening presently, was given almost equal weight. On the other hand, the notion that change makes things worse and that traditional ways should be kept (Past solution) was definitely the least preferred conception in all localities (see Table 7.1). This was particularly true in the city
where either response was preferred to the Past alternative a statistically significant number of times. In fact, as Table 7.11.A shows, this avoidance of the Past alternative occurred in all areas, but it was evaded so resolutely in Gallup that the hypothesis stating no difference in responses between the three areas had to be discarded. 25

The rejection of the Past solution was so striking among urban inhabitants that this raises questions as to whether this was caused by urban living and contact, or whether it was a selective trait of in-migrants. Table 7.11.B suggests that the Past solution was equally shunned by relatively new urban in-migrants. While there are only eight men who had lived in any city less than four years, the supposition is that men who come to the city have low valuation of philosophy of life that says change makes things worse and that continuously looks to the past as the golden age. They may not be partial to a Present or Future time orientation, (the Future solution was preferred to the Present only three of eight times), but they certainly prefer either one to the Past.

In conclusion, the traditional Present time value in this behavior sphere apparently presents no barrier to urban migration which leads generally to an improvement in economic well-being. However, a crucial element appears to be a view of life which leaves no room for looking to the Past. 26
TABLE 7.11
STATISTICAL RELATIONSHIPS ITEM T3

A. Relationships Between Residence and Selected Preferred Paired Responses

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present &gt; Past</td>
<td>31</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>Past &gt; Present</td>
<td>4</td>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 8.5; \ p < 0.02; \ 2 \text{ df (two-tailed test)} \]

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future &gt; Past</td>
<td>31</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Past &gt; Future</td>
<td>4</td>
<td>14</td>
<td>9</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 7.4; \ p < 0.05; \ 2 \text{ df (two-tailed test)} \]

B. Selected Preferred Paired Responses of Urban Newcomers Compared With Remaining Urban Population

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Recent Urban In-migrants (lived in a city less than 4 years)</th>
<th>Remaining Urban Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present &gt; Past</td>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>Past &gt; Present</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Future &gt; Past</td>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>Past &gt; Future</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
Item T4 (Ceremonial Innovation). Men in all areas were not happy about the prospect of changes in religious ceremonies (see Table 7.1). They wanted to keep ceremonies the way they had been in the Past. However, the strength of this preference varied, being especially marked within the city. In Gallup the Past alternative significantly lead all others and the Future response (stating new religious ways were better) trailed all others by a wide margin. Outside the city the Past solution was preferred, but it was not a statistically significant choice. These results are best summarized by Table 7.12 which indicates that of the six possible value orientations, only one was of any importance in the city (Past > Present > Future), and this one determined the overall preference pattern. Outside the city Navaho men did not value this response pattern to the same degree, and preferred choices were not as clearly defined.²⁷

<table>
<thead>
<tr>
<th>Ranking of Value Orientation Positions</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past &gt; Present &gt; Future</td>
<td>18</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Other Rankings</td>
<td>16</td>
<td>23</td>
<td>21</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.7; p \approx 0.06; 2 \text{ df (two-tailed test)} \]
This analysis indicates that while urban men have changed many of their ways of living and some of their behavior patterns or religious beliefs, they sincerely miss old religious ceremonies. They regret religious changes and would bring old ways back if they could. Whether they would return to old ways is hypothetical. However, this represents a reaction by Gallup men to their isolation from Navaho society, and to their loss of some traditional ways. This was particularly true for a few older men who had lived in the city a long time (among them the pattern Past > Present > Future was most prevalent). If urban men do not always cling to old religious ways in action, there was at least an attempt to do so in desire.

Item T5 (Water Allocation). This question attempted to estimate a Navaho's commitment to planning. Unfortunately the question is concerned with behavior at the community level, dealing with a problem of water allocation, rather than with resources at the personal level. It was hoped, however, that the question would provide some measure of a man's value for planning by using this broad and traditionally important question pertaining to water allocation.

Table 7.1 shows that there was little preference for any particular alternative outside the city. In fact, responses were almost equally distributed between the various possibilities. In Gallup though residents displayed
a significant preference for working out a good allocation plan in advance (Future solution) in comparison with dividing the resource as was habitually practiced (Past alternative). And this urban preference pattern for the Future response over the Past solution differed significantly from non-urban preferences for this set of paired alternatives (see Table 7.13.A). It was the only set of paired responses exhibiting such a difference and suggests that urban men had a stronger internalized value for planning ahead, in comparison with purely conforming with past habits. Table 7.13.B implies confirmation of this conjecture since this preference pattern apparently is carried by recent migrants into their new environment. In fact, there appears to be a rejection of the Past alternative in general by the in-migrants, and the remaining urban population. As in the item on philosophy of life (T3), a Future time orientation may not be important. What may matter is not being Past time in outlook where decisions must be made concerning change, expectations, or planning. However, on this particular question regarding planning an outside force seemed to influence value preferences.

Table 7.13.C shows that men with a greater number of years in school tend to be more Future time oriented, especially in comparison with the Past value preference. In summary then, a preference for doing things as in the
TABLE 7.13

STATISTICAL RELATIONSHIPS ITEM T5

A. Relationships Between Urban Residence and Selected Preferred Paired Responses

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Gallup</th>
<th>Non-Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future &gt; Past</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>Past &gt; Future</td>
<td>9</td>
<td>31</td>
</tr>
</tbody>
</table>

χ² = 4.0; p < 0.05; 1 df (one-tailed test)

B. Selected Preferred Paired Responses of Urban Newcomers Compared With Remaining Urban Population

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Recent Urban In-migrants (lived in a city less than 4 years)</th>
<th>Remaining Urban Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present &gt; Past</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Past &gt; Present</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Future &gt; Past</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Past &gt; Future</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

C. Relationship Between Education and Selected Preferred Paired Responses, for Combined Sample

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Education, in years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Future &gt; Present</td>
<td>19</td>
</tr>
<tr>
<td>Present &gt; Future</td>
<td>31</td>
</tr>
</tbody>
</table>

χ² = 3.6; p < 0.05; 1 df (one-tailed test)

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Education, in years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Future &gt; Past</td>
<td>24</td>
</tr>
<tr>
<td>Past &gt; Future</td>
<td>26</td>
</tr>
</tbody>
</table>

χ² = 5.4; p < 0.01; 1 df (one-tailed test)
past without planning ahead was alien to the urban population, including recent in-migrants, and a greater emphasis on the value of planning for the future probably was obtained through education. 28

T6 (New Factory). 29 This question was asked to discover how Navahos living outside the city felt about economic development, in the form of a new factory, coming to their community. Men in both areas strongly opposed keeping the factory out (Past response) and were not upset that this development might precipitate changes in old ways. But they were about evenly divided between wanting to do all they could to bring in the factory and improvements (Future alternative) and watchful waiting (Present solution). Men in Turquoise Valley, however, preferred the Future to the Present alternative slightly more often, and avoided the Past response to such an extreme that their solutions seemed to be drawn from a different population of responses when compared with the Neartown group (Table 7.14). Low incomes and lack of economic opportunities undoubtedly were factors in this response pattern of Turquoise Valley men. Also, in Neartown various industries were visible in the nearby urban environment, and there may have been some hesitancy about allowing similar activities to intrude on community life. Navahos in Neartown at least were in a better position to evaluate some of the changes in Navaho
TABLE 7.14

STATISTICAL RELATIONSHIPS ITEM T6

Relationship Between Residence and Preferred Paired Responses, for Non-Urban Areas

<table>
<thead>
<tr>
<th>Preferred Paired Responses</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future &gt; Present</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Present &gt; Future</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Present &gt; Past</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>Past &gt; Present</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

\[ p \approx 0.02; \text{ Fisher exact probability test (two-tailed)} \]

\[ \chi^2 = 5.4; \quad p \approx 0.02; \quad 1 \text{ df (two-tailed test)} \]

life that might occur as development moved into their community. In both communities though there were apparently no insurmountable barriers to future economic change and development, and Navahos generally supported economic advancement in the community.

Summary of Time Orientation Area. Results will not be combined and displayed as in previous summarizing sections. There were too few questions and one on religion (T4) provoked such completely atypical responses in the city that an aggregation of responses would distort urban values in the time orientation area. In general though, in matters such as raising children (T1) or changing religious ceremonies (T4) urban Navahos tended to be more
traditional in outlook, that is Present time oriented. And in the case of a religious question they were unhappy about losing past traditions. However, in spheres like planning and philosophy of life or expectations in life, a valuation of the Past time was completely alien to urban men. In fact, this is the first evidence that any particular value orientation was crucial for economic growth or change and an orientation toward Past time was not conducive to urban migration. Change conceived in terms of the past was not compatible with this type of mobility. On the other hand, a traditional Present time orientation toward these problems was not a detriment to urban migration. Overall a Present time value preference offered no barrier to economic change and growth.

The city itself did not influence results in the direction hypothesized. Among urban residents it was noted that city life apparently only affected two questions (T1 and T4), and in each case Present or Past time solutions emerged as primary preferences. In the non-urban areas the community nearest the city showed a striking preference for a Future time response only in the child training question. But in other problem areas an orientation toward Future time was more visible in Turquoise Valley and not Neartown. Generally the city has had little success in changing Navaho values more rapidly toward the Future time orientation.
However, in comparison with 1951 data, Navaho values throughout the society are evidently changing -- moving closer to the Future time orientation and away from the Past. 30

Activity Orientation Area

Navahos historically have placed such a strong emphasis on the Doing alternative of the activity orientation area that only two questions were used to check this preference pattern. Items A4 and A6 deal with the care of fields in farming and with nonworking time. In each locality men believed it was better to spend extra time on fields or to learn new things and methods in nonworking time (Doing solutions), rather than taking trips, telling stories, or enjoying life (Being solutions). Table 7.1 indicates that preference for the Doing solution was statistically significant in each area. Specifically, out of a total of 183 responses to both questions only seventeen men selected the Being response. There was no question about Navahos having a strong valuation for working hard and keeping busy. 32

Items A1 and A2 are actually two parts of the same question, and should be treated as a single item. Also, this question was not satisfactorily phrased to provide an adequate test for the activity orientation. 33 Nevertheless, the question was used because it refers to employee-employer relations, an area which could produce
interesting results. And while the Doing and Being labels for responses to this question could appropriately be eliminated, this was not done.

Table 7.15A shows that for the first part of this question (A1) Gallup men strongly favored working for a boss who insisted men stick on the job and work hard, for

<table>
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<th>TABLE 7.15</th>
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<| STATISTICAL RELATIONSHIPS ITEMS A1 AND A2 |
<| A. Relationship Between Residence and Preferred Responses to Item A1 |
<| Preferred Responses | Gallup | Neartown | Turquoise Valley |
<| Doing > Being | 31 | 23 | 15 |
<| Being > Doing | 4 | 14 | 15 |
<| $\chi^2 = 11.7; p < 0.01; 2 \text{ df (two-tailed test)}$ |
<| B. Relationship Between Residence and Preferred Responses to Item A2 |
<| Preferred Responses | Gallup | Neartown | Turquoise Valley |
<| Doing > Being | 26 | 20 | 11 |
<| Being > Doing | 9 | 16 | 18 |
<| $\chi^2 = 8.5; p < 0.02; 2 \text{ df (two-tailed test)}$ |

which they received more pay ("Doing" solution), rather than working for a less firm boss who paid only average wages ("Being" solution). Outside the city neither solution was significantly more preferred.
The two separate solutions to this question underscores a major area of conflict for wage working Navahos in the American urban economy. The American economy stresses punctual observance of particular working hours on specific days. Deviance from this pattern is allowable only in emergencies. On the other hand, for many Navahos there are substantial commitments of time to family and religious ceremonies. To take time from work in order to discharge these duties or assist others would generally cause friction with a non-Navaho employer. To avoid this, Navahos usually have been able to reach some compromise in the allocation of time to employment, to family, and to other duties. Therefore, it was not surprising to note that the urban group had internalized the necessity of sticking on the job and being punctual and prompt to such a degree that their preference for the "Doing" alternative was significantly greater than in either non-urban area. As one informant saw it, the lenient boss was not working his men hard enough; consequently, the "men working may feel (they) can be off any day." The result would be that they would "lose (their) job." Other men liked the idea of higher pay, but in either case they realized that taking time-off for personal reasons was not adequate cause for missing work in the American urban economy. This was even true of new arrivals to the city. All eight men
who had worked or lived in a city one month to four years preferred the "Doing" solution. Either the Navaho male arrives in the city with the knowledge of what is expected of the employee and employer in the work situation, or else he quickly learns these expectations if conflict is to be avoided.

Outside the city results did not fall into a simple pattern. In Neartown, of ten men who had worked for a long continuous period (at least one year) in the city, eight preferred the "Doing" alternative, whereas only one out of five part-time urban workers selected this response. This suggests that acceptance of these wage work principles in employee-employer relations were learned by continuous urban employment. The complication arises from the fact that of fourteen men in Neartown who had no jobs or only part-time jobs outside the city, eleven also preferred the "Doing" solution. Therefore, men with low incomes could also prefer this response because they wanted employment and higher annual incomes. In the more inaccessible area of Turquoise Valley there was a tendency for men who had travelled frequently outside the community for jobs to choose the "Doing" variation. While this was chosen only by nine out of fifteen men, in rationalizing their answers they displayed an acceptance of American industrial work rules.
In summary, it is apparent that Navahos who intended to work for long periods in the American urban economy, or who intended to go outside their community for jobs, know what to expect in the way of work rules and knew the roles associated with employee and employer activities. Other men chose the "Doing" response probably because their relatively indigent condition dictated a preference offering a job and greater income.

Regarding the second part of this question, item A2, Table 7.15.3 shows that responses to this portion of the question were similar to those obtained for A1. Of the men preferring the "Being" solution for item A1, all with the exception of two also chose this alternative as their response to item A2. More men preferred the "Being" alternative in item A2 because when they thought of themselves as boss they became understanding of a worker's plight. Jobs and money were relatively scarce and there was a desire by informants to take workers back, and to be tolerant about workers being away for brief periods.

In general the overall Doing value orientation makes it easier for Navahos to step into American urban industrial jobs where hard work and industriousness are also valued. Yet, there is evidence to indicate that a degree of conflict exists between Navaho values in the area of employee-employer relations and expected behavior in the
modern economy. This did not include the urban group of migrants who had internalized the ground rules for working in the non-Navaho urban economy.

Concluding Comments

This chapter has shown that many factors or outside forces influence values and that values are subject to change at various stages of life. This is much different from the results concerning motivation, where level of $n$ Achievement apparently was fixed early in life and was influenced notably by factors associated with the family. This reflects the relative independence of motives and values in personality. However, $n$ Achievement by helping to induce certain types of behavior, such as increased mobility, precipitated particular situations which affected value preferences. In fact, many solutions to a problem were a function of particular real life situations with which a Navaho was concerned. In this context value preferences adapted to a specific set of circumstances, rather than being determinants of action. This documents the adaptability of Navaho values, a favorite topic for discussion. On the other hand, there were indications that a few value preferences did canalize motivation and were elements in producing specific actions. For example, how Navahos viewed time in particular behavioral spheres appeared to be crucial for urban migration. In planning
and in philosophy concerning life and expectations for change. A Past time orientation was not found among the urban population, or even among its most recent in-migrants. These city men also knew what to expect in terms of employee and employer relations and the roles of each in the urban work situation. Certainly there were other value preferences (and even motives) that were related to urban migration and other aspects of behavior. But these were the only ones in this study showing any evidence of having a causal effect on economic growth or change.

Regarding traditional Navaho value orientations, the conclusions reached was that they represent no constraint on economic growth and change. In the time orientation area a preference for the Present variation in solving problems offered no obstacle to change. Nor did Collaterality or Harmony-with-Nature preferences for solving problems in the relational and man-nature orientation areas present barriers to change, although these areas actually appeared to have little relation to migration or more general economic behavior. However, if Navaho men had been historically oriented toward Lineality36 or Subjugation-to-Nature views this may have been a handicap to any kind of change or economic growth, in the same way a Past time orientation was disadvantageous in certain spheres of behavior. The difficulties that such a set of
value orientations might pose will have to be established though by research in other cultures. With respect to the Doing activity preference of Navahos, this undoubtedly made Navahos better suited for economic change and growth. A valuation for hard work and industry helps Navahos economically and makes it easier for them to adjust to a modern economy where such actions are also highly valued. This preference pattern, however, is probably shared by many Americans Indian groups who have not made similar adjustments.

Finally, with respect to the potential an American urban area has for changing value preferences in the direction of American values, it was found that within the three areas of residence no widespread variations in responses resulted because of living in or near an urban area. Only in a few man-nature questions did urban Navahos show a tendency to assume American value preferences through urban contact. This does not mean that Navaho values have been stagnant. Actually, their preferences appear to have moved closer to Future, Mastery-over-Nature, and Individualism value orientations -- all American value preferences. But they have done so apparently as a society or culture, and no particular community, even those most accessible to urban America, has changed at a more rapid pace.37
Chapter 8

ENTREPRENEURS AND FUTURE DEVELOPMENT

One method of stimulating economic development on the Navaho Reservation and sustaining economic growth is through a rise in entrepreneurial activity, particularly among Navahos. Such an event could capture large amounts of money currently spent on goods and services purchased by Navahos outside the Reservation, would provide more jobs locally for Navahos, and could establish a Navaho class of businessmen capable of passing on their skills to future generations.

In the past anything resembling entrepreneurial activity has been confined primarily to stockraising and silversmithing, where the risk in terms of capital and decision-making was usually at a relatively low level and where business acumen for coordinating the various factors of production was frequently unimportant. Recently though more Navahos have been going into business on a larger scale. Navaho automobile service stations, retail stores, and other businesses have been appearing throughout the Reservation. In 1963 about thirty such businesses were owned and operated by Navahos. 1

Since one of the keys to future Navahos economic development could lie in the availability of men willing to
undertake economic enterprises, it was decided to interview a small group of Navaho businessmen in order to compare their responses with Navahos already interviewed.

**Businessmen Interviewed**

Nine businessmen living in one part of the Reservation were contacted. Seven consented to be interviewed, but the complete schedule was given to only six. All of the businessmen with one exception had combined an automobile service station with a retail store selling general merchandise. Five men had been operating their business for less than a year, so gross sales were difficult to estimate, but the range was from about $1500 to $7500 per month.

The size of this group of businessmen was supplemented by using the responses of three men interviewed previously in the urban population. These included: 1) a contractor in the building industry who often had many men working for him; 2) a part-time rancher who earned a substantial income from his cattle business; and 3) an artist who sold his painting in the national market and had developed a notable reputation. These nine or ten men constitute the sub-sample of businessmen.

**Starting the Enterprise**

A few businessmen gave no indication that they had
been looking forward to a business operation longer than a
year or two prior to their investment but most had been
planning their enterprise for at least five to ten years.
As one informant related: "Since a little boy been think-
ing of . . . I worked at a store when young boy as a labor-
er. Think about someday being a businessman."

Nevertheless starting a business required sufficient
numbers of Navahos with spendable incomes and money to in-
vest in the enterprise. Wage work in the past two decades
in and around the Reservation has increased rapidly and
provided the demand for goods and services. Capital for
these enterprises came with the recent wealth, but at a
slower rate because it had to be saved out of wages. Of
almost $40,000 invested in six retail trade business only
$8000 was borrowed from a bank or the Navaho Tribe. The
remaining portion was from personal savings usually put
together over a long period of time from wage work. Find-
ing sufficient money for investment represented a sub-
stantial obstacle for these men. The Tribe and banks were
not willing to take risks in lending money. For example,
The Tribe required that for business loans a man had to
either 1) have three years experience as a successful
business owner, or 2) be a recommended employee of a
firm with reasonable experience in business management,
marketing, and buying. Other men wanted to decrease their financial risk by retaining Government jobs while the enterprise was in its formative stage. But this was not possible since Federal laws prohibited them from trading with Indians while holding their job. All of these regulations seem unnecessarily restrictive and should be reconsidered since money for Navaho private investment is so scarce and Navaho entrepreneurial activity requires stimulation.

While investment capital was scarce family labor was not. In many instances the wife worked and helped save enough money to start a retail firm, and sometimes continued to work after the business was started to help see the family through lean months. In other ways the family was a source of substitution for capital. Many Navaho families contain someone with abilities in carpentry or other building trades, and all families can contribute labor of some kind. When an enterprise required a building to house merchandise the family was used in the construction process. The family was also used in many other ways when their time and labor were required after the enterprise had begun. One man could call on his relatives just in the busy hours of a day when sales clerks were needed, and he paid them with store goods or credit. Wives, sons, daughters, brothers and a wide variety of in-laws were available to assist, and only one man voiced the opinion that using rel-
atives in the business lead to problems. This man still had one relative as an employee and his father ran the business for several months during one period. From this it is evident that the business was sometimes a family enterprise, and while the man interviewed appeared to be the driving force behind the operation, in one or two instances this may not have been entirely true. At any rate the problem of finding sufficient money for investing in an enterprise was substantial, and was overcome in part by using the labor and talents of the nuclear and extended family. And while money was still scarce every retail businessman spoke in terms of expanding his business. He was not satisfied with just having made a start, and was looking for other opportunities to develop and enlarge the firm. Given this desire, the next question is, where did the businessman learn the techniques of operating an enterprise?

Certainly much was learned by trial and error. There was one man who worked at a store when young, but only briefly and at a very early age. However, two retail store owners undoubtedly did learn some business methods while working at trader's stores for long periods of time; and one man had a father who was a retail trader during the first fifteen years of his life. Therefore, several men at least had contact with a business firm prior to their initial investment, and in each case this experience was
valuable. Nevertheless, most men did in fact appear to be learning from first-hand experience, by making their own mistakes, since more than half never had previous encounters with operating a business firm. They had another advantage, though, and that appeared to be a particular type of personality suited for entrepreneurial activity. This more than compensated for a lack of certain business skills.

Achievement Motivation, Education, and Value Orientations of Businessmen

Achievement scores of Navaho businessmen displayed a wide range (2-11), but most were exceedingly high. These men also were above average in degree of education for Navahos, all having attended school for from six to eighteen years. The first thought is to compare these men with the urban population and note any differences between these two groups of outstanding men. It is hypothesized that entrepreneurs would have higher \( n \) Achievement scores and more education.

Table 8.1 shows that while the average \( n \) Achievement scores and years of education for businessmen are above that of the urban population, it is only \( n \) Achievement scores that are significantly different at the five percent level. Apparently the innovation and risk required to become a businessman is substantially more than what is necessary to migrate or to participate in most
### Table 8.1

**Achievement Scores and Education of Businessmen and Urban Population Compared**

<table>
<thead>
<tr>
<th></th>
<th>Achievement Scores</th>
<th>Size of Sample</th>
<th>Education, years</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
<td></td>
</tr>
<tr>
<td>Businessmen</td>
<td>6.44</td>
<td>3.24</td>
<td>9</td>
</tr>
<tr>
<td>Gallup Residents</td>
<td>4.37</td>
<td>2.68</td>
<td>32</td>
</tr>
</tbody>
</table>

$t = 1.91; p < 0.05; 39 \text{ df}$  

$t = 1.50; p > 0.05; 39 \text{ df}$
other occupational activities. The risk of personal capital and innovation in a whole new set of entrepreneurial activities necessary to keep a business operational and profitable requires a personality characterized by a very high level of achievement motivation. The businessman is taking chances but the situations are not so unwieldly that he is unwilling to test his skills and ability—his achievement in a new enterprise. Education in American schools is an important ingredient, although its major contribution may be to allow Navahos to operate in the non-Navahos society where they usually procure their supplies and commodities for the business venture. In some instances they also sell their services in the non-Navaho society. Therefore, these men require a substantial degree of contact with the non-Navaho world to operate their business. Through education the businessman may have absorbed some of the techniques necessary for managing a business, but probably, more importantly, it taught him English and how to deal with non-Navahos and the alien society. 8

High achievement motivation seems to be an important element in the personalities of men going into business. However, in a few cases other members of the family were very active in the enterprise. Several wives or sons of store owners seemed especially energetic in assisting with the operation. In these instances men interviewed tended
to have lower \( n \) Achievement scores. It is possible that the personalities of these other family members were able to compensate for the relatively low achievement motivation of the titled business owner. This suggests that where the family participates in the organization and development of an enterprise it is not always sufficient to study only the designated owner.

The responses of businessmen to the value orientation questions in general followed the preference patterns of other informants already discussed. Nevertheless there were several notable exceptions. In the activity and man-nature orientation areas the businessmen chose alternatives to the various questions that resembled closely preferences of men from one or another of the areas studied. Overall the businessmen tended to prefer the Doing alternatives in the activity area, but displayed no strong preference for any single variation in the man-nature area. In the relational orientation area responses were quite similar to those obtained from the city residents except in one item. On question R3 (Family Work Relations) seven of the nine men gave the Individualism solution as their first-rank preference. These men, although they often helped support relatives in the extended family with their income and also received assistance of various types from the extended family, wanted to be free to look after their own
family problems and preferred making individualistic decisions about work without consideration of the collateral family or its oldest, able member. This probably reflects a general preference and value for individualistic decision-making, with individualistic sometimes meaning the entire nuclear family and not just the businessman in question.9

In the time orientation area businessmen displayed two important differences in their responses. In the philosophy of life and planning questions (T3 and T5) businessmen did not simply avoid the Past alternative, rather they showed a marked preference for the Future alternative. Their expectations were that the future would bring improvements; they were forward looking, welcomed change and valued working out plans for the future. A Future orientation in these areas matched their innovative personalities and was probably a requirement for the type of activities in which they were engaged -- in business enterprises that required considerable planning and orientation to the future. It is possible that these values were internalized after the business operation began. However, it is more likely that these values have been long standing, especially since most men had been planning their enterprise for many years.

In summary, for Navahos a lack of money was a constraint to the development of business enterprises. This burden could be lightened by repealing undue Governmental
and Tribal restrictions. Nevertheless, this obstacle was surmounted by continually saving resources over a period of years and by using the nuclear and extended family for starting and operating the enterprise. But capital was not the only important factor necessary for Navahos to respond to economic incentives. The personality of businessmen was characterized by a relatively high level of achievement motivation when compared with other Navahos interviewed; and they valued planning for the future, were committed to a philosophy of life that was future time oriented, and tended to value an individualistic approach to solving family work problems. In addition, these men required sufficient education to be able to carry on related business activities with the non-Navaho society. Undoubtedly Navaho businessmen differ in other ways from the larger population, however, this indicates that to create an entrepreneurial group certain personality characteristics appear to be as important as sufficient capital or demand for economic goods.

**Future Development**

It would be negligent if after presenting the results of this research on entrepreneurs and Navaho men in various locations no mention was made of future Navaho economic development and growth.
Data have shown that there are a number of Navaho men motivated to succeed in modern occupations, and when necessary, in the non-Navaho society; that Navaho men even with little personal achievement motivation are willing to work for periods at certain jobs in the American national and regional economy; that traditional Navaho value orientations are not antagonistic to economic change or growth (except businessmen displayed a preference for non-traditional responses in several behavioral spheres); and that Navahos are obtaining more education with the passage of time and this has been an asset in competing for particular jobs. In brief, there are no overwhelming barriers among the human resources of Navaho society to continued economic growth in response to greater contact with the American economy or possible economic development on the Reservation. However, the pace of economic growth on the Reservation could be greatly increased and continued migration of some of the most talented human resources from the Reservation represents a serious drain on the economic potential of the Navaho area. Men with the highest levels of achievement motivation and education have been forced to seek jobs outside the Reservation because of limited employment opportunities. These are the same men though who are anxious to return to the Reservation as jobs in their fields become available (see Appendix III). By increasing economic opportunities and incentives on the Reservation
the research indicates that the filtering off of these able men could be gradually decreased, and that in the process a group of Navaho businessmen would respond to an improved economic climate. The most immediate question is, where do these economic opportunities and incentives lie?

An advantage for the Navahos is that economic opportunities and incentives already exist, although it may take a substantial effort to channel certain opportunities directly into the Navaho economy. For example, the American cities interlaced with the national highway grid adjacent to the Reservation (see Chapter 3) in many respects are "parasitic" and exporters of Navaho wealth. That is, these cities have grown largely in response to Navaho economic growth and are not accountable for economic development on the Navaho Reservation or its surrounding area. It is true that these cities, such as Gallup, have provided jobs for a special group of Navaho men. However, this return in wages represents only a small portion of the wealth expended by Navahos in these centers. In 1959, "Editors and Publishers Market Guide" estimated that retail sales in Gallup had reached about $38 million per year, and local sources judge that sixty to sixty-five percent of this was derived from trade with Indians. Wholesale trade in Gallup was also a large monetary operation and about eighty to ninety percent was attributed to Indian trade. Consequently
these cities apparently have been generating comparatively little economic development and growth within the Navaho Reservation in comparison with Navaho money spent in such centers.

A necessary type of development apparently is one which stimulates the growth of internal points, communities inside the Reservation. Such communities can usurp the "parasitic" function of cities adjacent to the Reservation and provide a basis for economic development. Governmental-administrative communities exist throughout the Reservation, all of which have been growing in the past decade and all are connected by paved highways. A skeletal structure of internal communities is already available for future development. Part of this development might require non-Navaho human or monetary resources in various enterprises, at least in the early stages. But there are so many economic opportunities available that it would appear reasonable wherever possible to promote Navaho entrepreneurial activities. Wholesale and retail shopkeepers of every sort should be encouraged to start a business in growth communities where their operations can become viable. There are many Navahos willing to take business risks, however, more money should be made available for financing such businesses, and education grants and loans to acquire certain skills in short supply (e.g., television and plumbing repair work, cleaning and tailoring, etc.) are also necessary.
Development at several points on the Reservation potentially can capture substantial amounts of money now spent in cities outside the Reservation by Navahos, other local residents, and tourists; can provide more jobs for Navahos; and can create a class of Navaho businessmen.

There remains though the possibility for larger, more technical industrial development. Power lines from Glen Canyon Dam and a generating plant at Morgan Lake now crisscross the Reservation; community water and sewage systems are being expanded by the Government; highways are now accessible throughout the Reservation; various types of natural resources are available; and a large relatively inexpensive labor supply noted for their abilities in various crafts and working with their hands, exists in all parts of the Reservation wanting to work and apparently willing to have new industries move into their communities (see responses to question T6 in Chapter 7). The development of more technical industries on the Reservation probably could be accomplished best by existing industries in the larger American economy which could be lured by the numerous amenities of the Reservation. Non-Navahos would manage and direct such plants in their early stage of development. However, through training and experience, many of perhaps all, of these jobs in later years could be taken over by Navahos. The Navaho Tribe may want to go into
some of this development on their own, as they have done in a few instances already, but it would probably be more efficient in many cases to attract established companies onto the Reservation.

From this brief summary it is obvious that many opportunities for sustained economic development and growth, either by local Navaho entrepreneurs or by cooperation with outside business enterprises, are available on the Reservation. The question of how this will be done is the complicated issue. Obviously this is where Tribal leadership plays the primary role and where important decisions to take advantage of opportunities must be made. Money does not appear presently to be a constraint. Late in 1963 the U.S. Treasury was holding $70 million for the Tribe. Therefore, a substantial amount of money is available for helping Navaho businessmen; for assisting outside, non-Navaho enterprises in their formative stages; for training workers in enterprises willing to establish plants on the Reservation; or for training other Navahos, especially entrepreneurs, in various skills. It is essential though that Tribal leaders take a firm, decisive stand on these important issues. They may favor one or all of the methods suggested for stimulating economic growth or they may have other preferences for reaching the same goals. The significant condition is that in the past talented Navaho in-
novators of economic change have generally migrated as individuals into the American economy and only occasionally have they profited on the Reservation. Therefore, to harness this energy for Navaho economic growth and change, and to provide many more jobs for the less skilled and those unwilling to risk migration, Tribal leaders must agree on some policy of economic development. The resources are available and it may require only the decisiveness of a few key leaders to steer Navahos into the next phase of economic growth. Their action would also give a fresh impetus to Navaho unity by establishing a plan for development.

While the Tribe must chart their own course of action the Government can suggest and present various alternative economic plans for developing the Navaho region. Many alternatives for the future confront the Navahos and a combination of solutions may be in the Navahos' best interest. These plans could be guides for future action, however, the Government should be permissive in their behavior. They should not be constrained by elaborate plans or expect high efficiency in allocating resources. Navahos and their leaders will make mistakes in attempting to implement a course of economic development and the Government should not be overly protective, otherwise no development may take place. What may often appear as economic
waste may be part of the learning process for individual entrepreneurs and the Tribe itself. The important consideration is to get on with development by encouraging Navaho leaders to coalesce so they can provide the necessary guidance for more rapid economic growth.
CHAPTER 9
CONCLUDING REMARKS

Clyde Kluckhohn provides a concise concluding statement for this research: "In summary, then, any given act is seen as a compromise between motivation, situational conditions, available means, and the means and goals as interpreted in value terms." ¹

It has been shown that at least one motive, a Achievement, was significantly related to many aspects of economic behavior among Navaho men. However, situational conditions, particularly family background and a history of unique contact experiences between Navahos and non-Navahos, were prominent factors in influencing economic behavior. In addition, the available means at hand for participating in modern economic activities were important. Men in certain locations were favored by being near jobs or agencies that could funnel their labor into the larger region or nation. Also, the amount of education that had been acquired offered a means for improving a man's economic position, for adapting to non-Navaho urban living, and for dealing with the alien non-Navaho society. And, finally, these opportunities or means and economic goals were not in conflict with Navaho values or value orientations. Navahos displayed a strong preference for economic activity and for a life of activity in general, and this together with a rising value for education offers few constraints within
Navaho society for future economic growth and development in response to economic incentives.

Navaho economic change and growth probably resembles similar transformations occurring in many other societies in that the related causes for this progress are multiple. However, among Navahos research indicates that family background apparently was a determinant of achievement motivation and both variables significantly influenced level of education attained. The innovators of economic change and growth who took advantage of economic incentives were men primarily with high levels of achievement motivation and secondarily with high levels of education. The availability of economic opportunities and incentives in the form of capital or natural resources are essential components of economic development in less developed societies. Also, an abundance of these resources theoretically can compensate for deficiencies in human resources, although the resulting economic progress may be at less than an efficient rate employing different combinations of human and material resources. Nevertheless, without the human innovators of economic change progress is not likely to be widespread or of long duration, nor in fact is it probable that the original transformation would take place. It is what men achieve with their resources and opportunities that determines their wealth.

In Navaho society it was the urban population and the entrepreneurs who displayed the greatest participation in a
modern economy and who were the innovators of economic change. In many ways these men, especially those in the city, undoubtedly resembled migrants to the United States or migrants worldwide seeking economic prosperity. These characteristics included not only a desire to succeed occupationally, but also a feeling of uneasiness or concern for the loss of historically or traditionally important values and ideas, particularly in the religious sphere; and there was, as well, a desire for the success of children, with a "good" education being a necessary pre-condition for this achievement, despite a concommitant fear (not unfounded) that children would mature deprived of contact with, or value for, traditional Navaho ways of living.

Thus, these Navaho urban migrants were placed in an extremely ambivalent situation. However, while the constraints to future Navaho economic growth and development may be few, rapid progress is dependent upon channeling back into the Navaho economy the energies of these many talented men who have left and made the transition to a modern economy. Not only does the Navaho economy continue to suffer the consequences of this loss to the larger non-Navaho economy, but, in addition, these circumstances almost assure the irretrievable loss of their children who also have high potential for positively influencing Navaho economic growth. Raised in a non-Navaho environment, these offspring are likely to remain outside the Navaho economy regardless of incentives.
Navaho leaders, with the assistance of the Government and American private enterprise if they so choose, can play a decisive role in redirecting these vital Navaho human resources. Navahos have an opportunity to develop even more rapidly than in the recent past. This potential can become a reality through economic planning if Navahos and non-Navahos are willing to consider and solve the problems of development.
APPENDIX I

THE RESEARCH SCHEDULE

Explaining the Research

After randomly finding a man who appeared to meet the requirements outlined by the research design a general statement such as the following was given from memory:

I am very interested in Navaho history and way of life. In order to understand Navaho ideas better I would like to ask you a series of questions, which will take some time to answer.

I would like to ask a series of questions, some of which deal with your income, what kind of work you do or how you make a living, and so on. Among other things I am interested in finding out what Navahos are doing in several parts of the Reservation. And I am also interested in what Navahos think about various things. Some of this information could be important for suggesting how future changes might fit in with the way Navahos think about things.

After the man had consented to be interviewed some of the above was restated along with the following. This was usually given in private.

Some of the questions I ask or things I have you do may sound strange and unimportant, but they are important to me so that I can know more about Navahos and what they think about some things. Only myself and the interpreter will know you were interviewed and your name will not be used outside of this interview. So don't be afraid that anyone else will find out what you said. Try to answer the questions as well as you can. Make sure you answer the way you think best and not the way you think I want to hear and not the way you think the interpreter might want you to answer. Do you have any questions before we begin?

The following schedule was then given.
Research Questionnaire

**Age** (must be 20-55)
Been sick frequently during past year, or any other physical handicap which has kept you from working?

**Establish Location of Informant**
How long have you lived in present area (or city)?
Is present residence temporary - intend to move soon?
How soon? Where go? Why?

**Identity of Informant**
Names: (only if informant wants to give) Census No.:
Area: Code No.:

**TAT** (give at this point) (instructions and pictures at end of Appendix I)

**Income** (for the previous one-year period)
Wages and source:
Self-employment (estimate gross receipts and expenses incurred, include estimate of goods consumed and sold) and sources:
Other income and source:

**Employment Data**
Job Locations:
Type of Industry:
Occupations:
Job Duration, each one (if held all year, how long in present type of work), and whether full-time or part-time:

How was present job obtained:

**Capital, Loans, and Agricultural Data** (information primarily on self-employment)
Have herd? What of and how many?
Who takes care of usually?
Herd combined with other animals? Whose?
Size of farming plot and types and quantities of products obtained in past year?

Who works farm (relationship)?

Use machinery or all hand farming?
Estimate other capital invested (e.g., value farm implements, machinery, etc.)?

Do you have any loans of money outstanding? How much, what for, and where borrow?

**Education, Special Abilities and Skills**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speak English?</td>
<td>How well?</td>
</tr>
<tr>
<td>Understand English?</td>
<td>Write English?</td>
</tr>
<tr>
<td>Speak Navaho?</td>
<td></td>
</tr>
<tr>
<td>Years of formal education?</td>
<td>Grade finished?</td>
</tr>
<tr>
<td>Where obtain and type of school?</td>
<td></td>
</tr>
</tbody>
</table>

How did it happen that you started in school, or learned English?

Do you have any special skills or abilities especially helpful for earning an income? Have any trades, abilities to use certain machinery, etc.?

Where acquire?

Have you ever received any special training (what, where, how long, when)? E.g. in raising sheep or cattle; in using machinery; etc.

**Veteran?**

When and how many years in service?

**Migration Data**

How long live in general area (in city)? (Information on p. 1)

Where did you come from, why did you move, and what jobs have you held? (trace moves for as long as practical and do job history as well)

Have ever lived in city (where and how long)

Why leave city?

Do you go back to the Reservation frequently to live or visit? (only those living in city)

**Value Orientation Schedule** (instructions at end of Appendix I)

1. **Job Choice**
   
   Items A1 + A2

   A man needed a job and had a chance to work for two men. The two bosses were different. Listen to what they were like and say which you think would be the best one to work for.
1. One boss was a fair enough man, and he gave somewhat higher pay than most men, but he was the kind of boss who insisted that men work hard, stick on the job. He did not like it at all when a worker sometimes just knocked off work for a while to go on a trip or to have a day or so of fun, and he thought it was right not to take such a worker back on the job.

2. The other paid just average wages but he was not so firm. He understood that a worker would sometimes just not turn up—would be off on a trip or having a little fun for a day or two. When his men did this he would take them back without saying too much.

(Part one)

Which of these men do you believe that it would be better to work for in most cases?

(Part two)

Which kind of boss do you believe that it is better to be in most cases?

2. Well Arrangements

When a community has to make arrangements for water, such as drill a well, there are three different ways they can decide to arrange things like location, and who is going to do the work.

1. There are some communities where it is mainly the older or recognized leaders of the important families who decide the plans. Everyone usually accepts what they say without much discussion since they are the ones who are used to deciding such things and are the ones who have had the most experience.

2. There are some communities where most people in the group have a part in making the plans. Lots of different people talk, but nothing is done until almost everyone comes to agree as to what is best to be done.

3. There are some communities where everyone holds to his own opinion, and they decide the matter by vote. They do what the largest number want even though there are still a very great many people who disagree and object to the action.

Which way do you think is usually best in such cases?

Which of the other two ways do you think is better?
3. Child Training

Some people were talking about the way children should be brought up. Here are three different ideas.

1. Some people say that children should always be taught well the traditions of the past and the ways of the old people. They believe the old ways are best, and that it is when children do not follow them too much that things go wrong.

2. Some people say that children should be taught some of the old traditions and the ways of the old people, but it is wrong to insist that they stick to these ways. These people believe that it is necessary for children always to learn about and take on whatever of the new ways will best help them get along in the world of today.

3. Some people do not believe children should be taught much about past traditions and the ways of the old people at all except as an interesting story of what has gone before. These people believe that the world goes along best when children are taught the things that will make them want to find out for themselves new ways of doing things to replace the old.

Which of these people had the best idea about how children should be taught?

Which of the other two people had the better idea?

4. Livestock Dying

One time a man had a lot of livestock. Most of them died off in different ways. People talked about this and said different things.

1. Some people said you just can't blame a man when things like this happen. There are so many things that can and do happen, and a man can do almost nothing to prevent such losses when they come. We all have to learn to take the bad with the good.

2. Some people said that it was probably the man's own fault that he lost so many. He probably didn't use his head to prevent the losses. They said that it is usually the case that men who keep up on new ways of doing things, and really set themselves to it, almost always find a way to keep out of such trouble.

3. Some people said that it was probably because the man had not lived his life right--had not done things in the right way to keep harmony between himself and the forces of nature (that is, the ways of nature like rain, winds, snows).
Which of these reasons do you think is most usually true?

Which of the other two reasons do you think is more true?

5. Facing Conditions

There are different ways of thinking about how holy people are related to man and weather and all other natural conditions which make the crops and animals live or die. Here are three possible ways.

1. Holy people and people all work together all the time; whether the conditions which make the crops and animals grow are good or bad depends upon whether people (With) themselves do all the proper things to keep themselves in harmony with their holy people and with the forces of nature.

2. Holy people do not directly use their power to control all the conditions which affect the growth of crops (Over) or animals. It is up to the people themselves to figure out the way conditions change and to try hard to find the ways of controlling them.

3. Just how the holy people will use their power over all the conditions which affect the growth of crops and animals cannot be known by man. But it is useless for (Subj) people to think they can change conditions very much for very long. The best way is to take conditions as they come and do as well as one can.

Which of these ways of looking at things do you think is best?

Which of the other two ways do you think is better?

6. Family Work Relations

I'm going to tell you about three different ways families can arrange work. These families are related and they live close together.

1. In some groups (or communities) it is usually expected that each of the separate families (by which we mean Ind just husband, wife, and children) will look after its own business separate from all others and not be responsible for the others.

2. In some groups (or communities) it is usually expected that the close relatives in the families will work together and talk over among themselves the way to take care of whatever problems come up. When a boss is needed they usually choose (get) one person, not necessarily the oldest able person, to manage things.
3. In some groups (or communities) it is usually expected that the families which are closely related to each other will work together and have the oldest able person be responsible for and take charge of most important things.

Which of these ways do you think is usually best in most cases?
Which of the other two ways do you think is better?

7. Choice of Delegate

A group or community is to send a delegate--or representative--to a meeting away from the community or group (this can be any sort of meeting). How will this delegate be chosen?

1. Is it best that a meeting be called and everyone discuss things until almost everyone agrees so that when a vote is taken almost all people would be agreed on the same person?

2. Is it best that the older, important leaders take the main responsibility for deciding who should represent the people since they are the ones who have had the long experience in such matters?

3. Is it best that a meeting be called, names be put up, a vote be taken, then send the man who gets the majority of votes even if there are many people who are still against this man?

Which of these ways of choosing is usually best in cases like this?
Which of the other two ways is usually better?

8. Use of Fields

There are three men who had fields with crops. The three men had quite different ways of planting and taking care of crops.

1. One man put in his crops, worked hard, also set himself to living in right and proper ways. He felt that it is the way a man works and tries to keep himself in harmony with the forces of nature that has the most effect on conditions and the way crops turn out.

2. One man put in his crops. Afterwards he worked on them sufficiently but did not do more than was necessary to keep them going along. He felt that it mainly depended on weather conditions how they would turn out, and that nothing extra that people do could change things much.
3. One man put in his crops and then worked on them a lot of time and made use of all the new scientific ideas he could find out about. He felt that by doing this he would in most years prevent many of the effects of bad conditions.

Which of these ways do you believe is usually best?
Which of the other two ways do you believe is better?

9. Philosophy of Life Item T3

People often have very different ideas about what has gone before and what we can expect in life. Here are three ways of thinking about these things.

1. Some people believe it best to give most attention to what is happening now in the present. They say that the past has gone and the future is much too uncertain to count on. Things do change, sometimes for the better and sometimes for the worse, so in the long run it is about the same. These people believe the best way to live is to keep those of the old ways that one can --or that one likes--but to be ready to accept the new ways which will help to make life easier and better as we live from year to year.

2. Some people think that the ways of the past (ways of the old people or traditional ways) were the most right and the best, and as changes come things get worse. These people think the best way to live is to work hard to keep up the old ways and try to bring them back when they are lost.

3. Some people believe that it is almost always the ways of the future--the ways which are still to come--which will be best, and they say that even though there are sometimes small setbacks, change brings improvements in the long run. These people think the best way to live is to look a long time ahead, work hard, and give up many things now so that the future will be better.

Which of these ways of looking at life do you think is best?
Which of the other two ways do you think is better?

10. Wage Work Item R5

There are three ways in which men who do not themselves hire others may work.

1. One way is working on one's own as an individual. In this case a man is pretty much his own boss. He decides most things himself, and how he gets along is his own business. He only has to take care of himself and he doesn't depend upon somebody else.
2. One way is working in a group of men where all the men work together without there being one main boss. Every man has something to say in the decisions that are made, and all the men can depend on each other.

3. One way is working for an owner, a big boss, or a man who has been running things for a long time. In this case the men do not take part in deciding how the business will be run, but they know they can depend on the boss to help them out in many ways.

Which of these ways is usually best for a man who does not hire others?

Which of the other two ways is better for a man who does not hire others?

11. Belief in Control

Three men from different areas were talking about the things that control the weather and other conditions. Here is what they each said.

1. One man said: My people have never controlled the rain, wind and other natural conditions and probably never will. There have always been good years and bad years. That is the way it is, and if you are wise you will take it as it comes and do the best you can.

2. The second man said: My people believe that it is man's job to find ways to overcome weather and other conditions just as they have overcome so many things. They believe they will one day succeed in doing this and may even overcome drought and floods.

3. The third man said: My people help conditions and keep things going by working to keep in close touch with all the forces which make the rain, the snow, and other conditions. It is when we do the right things --live in the proper way--and keep all that we have --the land, the stock, and the water--in good condition, that all goes along well.

Which of these men do you think had the best idea?

Which of the other two men do you think had the better idea?
12. Ceremonial Innovation

Some people in a community saw that the religious ceremonies were changing from what they used to be. People had different ideas about this.

1. Some people were really pleased because of the changes in religious ceremonies. They felt that new ways are usually better than old ones, and they like to keep everything—even ceremonies—moving ahead.

2. Some people were unhappy because of the change. They felt that religious ceremonies should be kept exactly—as they had been in the past.

3. Some people felt that the old ways for religious ceremonies were best but you just can’t hang on to them. It makes life easier just to accept some changes as they come along.

Which of these three said most nearly what you would believe is right?

Which of the other two do you think is more right?

13. Land Inheritance

Some sons and daughters have been left some farm and grazing land by a father or a mother who has died. All these sons and daughters are grown and live near each other. There are three ways they can handle the property.

1. In some groups it is usually expected that the oldest able person will take charge or manage the land for himself and all the other sons and daughters, even if they all share it.

2. In some groups of people it is usually expected that each son and daughter will take his own share of the land and do with it what he wants—separate from all the others.

3. In some groups of people it is usually expected that all the sons and daughters will make use of the land together. When a boss is needed, they all get together and agree to choose someone of the group, not necessarily the oldest, to take charge of things.

Which of these ways do you think is usually best in most cases?

Which of the other two ways do you think is better?
14. Care of Fields  
There are two men, both farmers or men with fields. They lived differently.

1. One man kept the crops growing all right but didn't work on them more than he had to. He wanted to have extra time to visit with friends, go on trips, and enjoy life. This was the way he liked best.

2. One man liked to work with his fields and was always putting in extra time keeping them clean of weeds and in fine condition. Because he did this extra work, he did not have much time left to be with friends, to go on trips, or to enjoy himself in other ways. But this was the way he really liked best.

Which kind of man do you believe it is better to be?

15. Water Allocation  
The government or Tribe is going to help a community to get more water by redrilling and cleaning out a community well. The officials suggest that the community should have a plan for dividing the extra water, but don't say what kind of plan. Since the amount of extra water that may come in is not known, people feel differently about planning.

1. Some say that whatever water comes in should be divided just about like water in the past was always divided.

2. Others want to work out a really good plan ahead of time for dividing whatever water comes in.

3. Still others want to just wait until the water comes in before deciding on how it will be divided.

Which of these ways do you think is usually best in cases like this?

Which of the other two ways do you think is better?

16. Nonworking Time  
Two men spend their time in different ways when they have no work to do. This means when they are not actually on the job.

1. One man spends most of this time learning or trying out things which will help him in his work.

2. One man spends most of this time talking, telling stories, and so on with his friends.

Which of these men has the better way of living?
17. New Factory (used only for people living outside Item T6 the city)

People in a community heard that there might be a new factory built very close to where they live. When the people talked about this they said different things.

1. Some people say they never know about these things. (Pres) It may turn out to be a good thing or it may not. They want to wait and see how it works out.

2. Some people are all for the factory and do all they can themselves to get it brought in. They feel that (Fut) new things like this are always good and will bring improvements to the whole region.

3. Some people do not want to have the factory moved into the area. They say that it will change things and (Past) people too much. They don't want to upset the old ways.

Which of these three said most nearly what you believe is right?

Which of the other two do you think is more right?

Heritage and Religious Preferences

Are parents full-blood Navahos?  
If not, what are they (by parent)?

Raised in childhood by parents? If not, by whom and were they full-blood Navahos?

Did parents (or whoever raised you) take part in Navaho religious ceremonies? Did they take part in any Non-Navaho religion? Which religion and which parent?

Did they speak English or have any education?

How many sings have you had for yourself in the past several years?

How many Navaho religious ceremonies have you attended in the past year?  
Squaw dances? What are your religious preferences? Do you or did you ever take part in any other religious activities (other than Navaho)? Which religion, for how long, and when in your life?
Extended Family, Household Size and Composition, and Miscellaneous Information

Household composition, size and approximate age: (Indicate if any are employed, and whether full or part time; also determine if anyone is away temporarily.)

Extended family composition, size, and approximate age:

Who is the informant supporting (even if only in part) economically?

What did father do for a living when young and where did he live?

Does informant have any brothers; where do they live, and what do they do for a living, did they have any education.

General Comments and Miscellaneous Information

Instructions for TAT

The following instructions were given for the TAT depending on whether the informant wrote the TAT or gave his answers orally.

Instructions for Written TAT

What I have here is sort of a game. It is a test of your imagination, especially your ability in story-telling. What I would like you to do is to tell me some stories. You might say it is sort of hard to just make up a story, so I will give you some help. I am going to show you four pictures one at a time. I will show you a picture for a few seconds and then I would like you to make up and write a story about the picture. We don't want to take much time, so I have written several suggestions on a page of paper that will help get a complete story for each picture. Notice there is one page for each picture. You see the questions I have written on each page:

1) What is happening? Who are the persons?
2) What has led up to the situation? That is, what has happened in the past?
3) What is being thought, or what is wanted? By whom?
4) What will happen? What will be done?
We will have only a minute to answer each question, or only four minutes for each picture, so you will have to work rapidly. I will keep time and tell you when to go on to the next question. But remember these questions are only guides to your thinking and need not be answered specifically. That is, each story should be continuous and as complete as possible, not simply answers to questions. Don't worry about mistakes in English. They are not important. But try to write so that each word can be seen.

Obviously there are no right or wrong answers, so feel free to make up any kind of a story about the pictures you want. Try to make them lively, expressive and dramatic, or moving, since this is a test of your imagination and ability in story-telling. This will indicate how quickly you can imagine a situation and write out a story about it. What story you write doesn't matter. So don't try to figure out exactly what is going on in the pictures. The pictures are only meant to suggest a situation and to help give you an idea to write about. So don't just describe the picture you see. Tell a story about it and make the story interesting. Do you have any questions?

Here is the first picture. Think about it until I put it down and then start by answering the first question.

Instructions for Oral TAT

What I have here is sort of a game. It is a test of your imagination, especially your ability in story-telling. What I would like you to do is to tell me some stories. You might say it is sort of hard to just make up a story, so I will give you some help. I am going to show you four pictures one at a time. I will show you a picture for a few seconds and then I would like you to make up a story for me about the picture. We don't want to take much time, so I will ask you several questions about each picture that will help get a complete story for each picture. I will ask the following four questions about each picture:

1) What is happening? Who are the persons?
2) What has led up to the situation? That is, what has happened in the past?
3) What is being thought, or what is wanted? By whom?
4) What will happen? What will be done?

We will have only a minute to answer each of those questions, or only four minutes for each picture, so you will have to work rapidly. I will keep time and tell you when to go on to the next question. But remember these questions are only guides to your thinking and need not be answered specifically. That is, each story should be continuous and as complete as possible, not simply answers to questions.
Obviously there are no right or wrong answers, so feel free to make up any kind of a story about the pictures that you want. Try to make them lively, expressive and dramatic, or moving, since this is a test of your imagination and ability in story-telling. This will indicate how quickly you can imagine a situation and make up a story about it. What story you make up doesn't matter. So don't try to figure out exactly what is going on in the pictures. The pictures are only meant to suggest a situation and to help give you an idea so that you can make up a story. So don't just describe the picture you see. Tell a story about it and make the story interesting. Do you have any questions?

Here is the first picture. Think about it until I put it down and then start answering the questions I will ask you.

The four pictures shown to each informant follow, along with a specimen of the answer sheet completed for each picture. The order of pictures was the order presented to each informant.
1. What is happening? Who are the persons?

2. What has led up to this situation? That is, what has happened in the past?

3. What is being thought, or what is wanted? By whom?

4. What will happen? What will be done?
Instructions for Value Orientations

The instructions below were given prior to the value orientations schedule:

The following series of questions are not a test. There are no right or correct answers. I wish you to answer in the way that you feel is best and this will help tell me something about your ideas and the Navaho way of life. Since I do not want to influence your answers, if there is anything you do not understand the question will be repeated, but no other explanation will be given. Do not answer the way you think I or the interpreter want you to answer. It is important that you answer in the way that you feel is best.
APPENDIX II

SCORING THE ACHIEVEMENT MOTIVE

Relation of Scoring Categories to the Adjustive Behavioral Sequence

We perceive the behavioral sequence originating when an individual experiences a state of need or a motive (N). (The symbols in parentheses are used throughout to denote the various scoring categories.) He may also be anticipating successful attainment of his goal (Ga+) or anticipating frustration and failure (Ga-). He may engage in activity instrumental (I) to the attainment of his goal which may lead to the attainment of the goal (I+) or not (I-). Sometimes his goal-directed activity will be blocked. The obstacle or block (B) to his progress may be located in the world at large (Bw) or it may be some personal deficiency in himself (Bp). He may experience strong positive and negative affective states while engaged in solving his problem, i.e., in attempting to gratify his motive. He is likely to experience a state of positive affect (G+) in goal attainment, or a state of negative affect (G-) when his goal-directed activity is thwarted or he fails. Often someone will help or sympathize with him—[nurturant press (Nup)]—aiding him in his goal-directed behavior. This, in brief, is our analysis of the behavioral sequence. Presumably these categories may be used to describe the behavioral
sequence no matter what the goal of the individual. For this reason, major attention must be directed to the definition of what constitutes an achievement goal.

Definition of Achievement Imagery (AI)

The scorer must first decide whether or not the story contains any reference to an achievement goal which would justify his scoring the subcategories (Need, Instrumental Activity, and so on) as achievement-related. By achievement goal is meant success in competition with some standard of excellence. That is, the goal of some individual in the story is to be successful in terms of competition with some standard of excellence. The individual may fail to achieve this goal, but the concern over competition with a standard of excellence still enables one to identify the goal sought as an achievement goal. This, then, is our generic definition of n Achievement.

Competition with a standard of excellence is perhaps most clear when one of the characters is engaged in competitive activity (other than pure aggression) where winning or doing as well or better than someone else is the primary concern. Often, however, competition with a standard of excellence is evident in the concern of one of the characters with how well a particular task is being done, regardless of how well someone else is doing. Any use of adjectives of degree (good, better, best) will qualify so long as they
evaluate the excellence of performance. Stories are scored for Achievement Imagery only when one of the criteria listed below is met.

1. Competition with a standard of excellence.
   a. One of the characters in the story is engaged in some competitive activity (other than pure cases of aggression) where winning or doing as well as or better than others is actually stated as the primary concern.
   b. If one of the characters in the story is engaged in some competitive activity (other than pure cases of aggression), but the desire to win or do as well as or better than others is not explicitly stated, then (1) affective concern over goal attainment, and (2) certain types of Instrumental Activity are considered as indicating that the desire to compete successfully with a standard of excellence is implicit in the story.
   c. Often the standard of excellence involves no competition with others but meeting self-imposed requirements of good performance. In this case, in order to score for AI what is needed are words to the effect that a good, thorough, workmanlike job, and so
forth is desired, or statements showing the affective concern or Instrumental Activity that will allow such an inference.

In the above criteria, distinction is made between statements of the intensity and quality of instrumental acts. Working hard, or working fast would be evidence of concern over achievement only when excellence at the task demanded speed or intense effort.

2. Unique accomplishment. One of the characters is involved in accomplishing other than a run-of-the-mill daily task which will mark him as a personal success. Inventions, artistic creations, and other extraordinary accomplishments fulfill this criterion.

3. Long-term involvement. One of the characters is involved in attainment of a long-term achievement goal. Being a success in life, becoming a machinist, doctor, lawyer, successful businessman, and so forth, are all examples of career involvement which permits the inference of competition with a standard of excellence unless it is made explicit that another goal is primary, e.g., food for the kids, personal security.²

Often, one of the characters may be involved in attainment of some limited achievement goal, i.e., a specific task. When rather routine and limited tasks or performances are shown definitely to be related to long-term
achievement interests, Achievement Imagery is scored. The relationship of a specific task to a long-term achievement goal must be clearly stated and not inferred by the scorer when it does not fulfill criterion (1) above.

Only stories which fulfill at least one of these above three criteria are scored for the achievement-related subcategories.

**Doubtful Achievement Imagery (TI)**

Stories containing some references to achievement but which fail to meet one of the three criteria for Achievement Imagery are scored Doubtful Achievement Imagery (TI) and are not scored further for achievement-related subcategories. The T chosen as a symbol for this category indicates that most frequently the stories to be classified as doubtful are ones in which one of the characters is engaged in a commonplace task or solving a routine problem. Whenever there is doubt about whether or not one of the three criteria for Achievement Imagery has been met, and the story is not totally unrelated to achievement, it is classified TI.

**Unrelated Imagery (UI)**

Stories in which there is no reference to an achievement goal are scored unrelated and not scored further. The difference between a story scored TI and one scored UI is simply that the TI story usually contains reference to some
commonplace task goal and often contains other task-related subcategories, but fails to meet one of our three criteria for scoring Achievement Imagery; whereas the story scored UI fails to have any reference whatsoever to achievement.

**Stated Need for Achievement (N)**

Someone in the story states the desire to reach an achievement goal. Need is scored only once per story, even when it appears more than once in varying forms. Need is not inferred from Instrumental Activity. It may seem quite obvious to the scorer that the characters who are working furiously toward an achievement goal must want to succeed. Need is scored, however, only when there is a definite statement of motivation by one of the characters.

**Instrumental Activity with Various Outcomes (I+, I?, I-)**

Overt or mental activity by one or more characters in the story indicating that something is being done about attaining an achievement goal is considered Instrumental Activity and is scored I+, I?, or I- to indicate whether the outcome of the Instrumental Activity is successful, doubtful, or unsuccessful. Instrumental Activity is scored only once per story even though there may be several instrumental acts stated. There must be an actual statement of activity within the story independent of both the original statement of the situation and the final outcome of the story.
Anticipatory Goal States (Ga+, Ga-)

Someone in the story anticipates goal attainment or frustration and failure. The Anticipatory Goal State is scored positive (Ga+) when someone is thinking about the success he will achieve. The Anticipatory Goal State is scored negative (Ga-) when someone is worried about failure. Both Ga+ and Ga- may be scored in the same story, but each may be scored only once.

Obstacles or Blocks (Bp, Bw)

Stories are scored for obstacles when the progress of goal-directed activity is blocked or hindered in some way. Things do not run smoothly. There are obstacles to be overcome before the goal may be attained. The obstacles may be a previous deprivation, i.e., failure, which must be overcome before further progress towards the goal is possible, or the obstacle may be a present environmental or personal factor. If the obstacle is located within the individual, it is scored Personal Obstacle (Bp). When the block to be overcome is part of the environment, or when there is some doubt about whether it is located in the individual or in the world, Environmental Obstacle (Bw) is scored. Both Bp and Bw may occur and be scored in the same story, but each is scored only once per story.
**Nurturant Press (Nup)**

Forces in the story, personal in source, which aid the character in the story who is engaged in on-going achievement-related activity are scored Nurturant Press (Nup). Someone aids, sympathizes with, or encourages the person striving for achievement. The assistance must be in the direction of the achievement goal and not merely incidental to it.

**Affective States (G+, G-)**

Affective (emotional) states associated with goal attainment, active mastery, or frustration of the achievement-directed activity are scored G. When someone in the story experiences: (1) a positive affective state associated with active mastery or definite accomplishment, or (2) definite objective benefits as a result of successful achievement which allow the inference of positive affect, G+ is scored. G+ indicates more than mere successful Instrumental Activity. Positive Affect (G+) would be scored only when a statement of positive affect was included, or if there were adequate indications of objective benefits associated with his success from which positive affect might be inferred with little doubt. This is another example of an arbitrary distinction which was necessary to make in order to insure an objective scoring system. Positive Affect may occur within the story, or it may be associated with the outcome of the story. It is scored only once per story and should only be scored when
there is a definite statement of positive affect associated with the achievement-directed activity or a statement of objective benefits above and beyond the statement of successful instrumental activity.

When someone in the story experiences: (1) a negative affective state associated with failure to attain an achievement goal, or (2) the objective concomitants of complete failure and deprivation which allow the inference of negative affect, G- is scored. As in the case of positive affect, negative affect must not be inferred merely from the unsuccessful outcome of instrumental activity. Negative Affect may occur within the story or at the end, but it is scored only once per story. Both Positive and Negative Affect may appear in the same story, in which case both are scored.

The Affective State categories are only scored when associated with the achievement-related activities of the story, as is the case with all subcategories.

**Achievement Thema (Ach Th)**

Achievement Thema (Ach Th) is scored when the Achievement Imagery is elaborated in such a manner that it becomes the central plot or thema of the story. The decision to be made by the scorer is whether or not the whole story is an elaboration of the achievement behavior sequence.
n Achievement Score

To compute the n Achievement score, give +1 for Achievement Imagery (AI), 0 for Doubtful or Task Imagery (TI), and -1 for Unrelated Imagery (UI). Subcategories can be scored only if AI has been scored. Each subcategory scored counts +1. Since each category may be scored only once, the maximal score possible for a single story would be +11 (AI, N, I, Ga+, Ga-, Bp, Bw, Nup, G+, G-, and Th). The n Achievement score for a particular person is the sum of the scores obtained on all of the stories written by that person.
APPENDIX III
NAVAHO INCOME CHARACTERISTICS

Navaho income came from many industries, occupations, and locations. Tables AIII.1 through AIII.3 provide background information on where and how money was earned by the men interviewed. Table AIII.1 shows the type of industry in which income was earned, except the Government Sector, including Federal, State, and Tribal, is factored out of the private group of industries. Approximately one-fourth of the income earned by men living in the city came from the Federal or State Government and almost an equal amount was derived from work with the Navaho Tribe. For those living in Neartown about one-fifth of all income stemmed from employment with the Federal Government and State, and about ten percent came from the Navaho Tribe. Back on the Reservation almost one-third of the income was based on Government employment and another third on Tribal employment. The difference in the latter case was that about half of this income was obtained from Federal or Tribal public works programs. All Navaho communities outside the city benefit from a Tribal public works program, but Turquoise Valley, in addition, benefitted from a Federal public works project established under the Area Redevelopment Act. While these work projects, especially in the least accessible area of Turquoise Valley,
probably kept a few men from searching for jobs beyond community boundaries, they did provide employment which was eagerly sought also by the less adventurous men. Therefore, a substantial amount of income was furnished to an area, and without this the community would have been even more economically depressed.

The group in Neartown had the widest range of employment by types of industries, primarily because most men in this area were laborers, most industries require some form of labor, and access to many types of industries in Gallup and the region was relatively high. On the other hand, herding and farming was an insignificant source of income among those interviewed and it was relatively less important among those in Neartown when compared with Turquoise Valley. Where available, part-time wage employment was substituted for farming and stockraising. The city did not stimulate much of an increase in the output of these products for the cash market for many reasons: 1) soil and climatic conditions are poor; 2) products are generally inappropriate for consumption by the non-Navaho society; 3) Navaho family tastes place a high demand on products that they raise; and 4) number of livestock is restricted by the use of grazing permits.

With respect to government facilities of all types, they were a focus of employment for many reasons. Navahos can be certain of almost no job discrimination with such an agency.
In fact, there is a special clause pertaining to most Federal agencies in this area which requires the hiring of an Indian when two men have equal qualifications. Also, government agencies provide job opportunities for more complex occupational activities—an outlet for those with more education and for a few tradesmen. This is especially true for those men living in the city. The foregoing conclusions also hold true for men who have gone to work for the Navaho Tribe. In this case though there are the added incentives of higher pay for craftsmen and professionals and of work for and with Navahos. Among men living in the city who could be classified in craft or professional occupations, most worked for the Navaho Tribe or a government agency of some sort. Of the men in Gallup who during the year in question worked for the Tribe, all at one time or another worked in the city. As jobs became available with the Tribe these men switched the location of their employment, but not their residence. Income was a major incentive as Table AIII.1 shows. Those living in the city received about twenty-three percent of their total income from the Tribe, but only spent about eighteen percent of their total employed time with the Tribe. In this instance employment was largely as professionals and craftsmen and not as laborers. But when these men were employed in urban trades by private businessmen wages were much lower than those paid by the Tribe. For example, in the
Private Sector of Wholesale and Retail Trade, which includes automobile repair work, seven of the twelve men employed in this area during the year of the survey were craftsmen. All men in this category earned about twenty percent of the total income of those residing in the city, but they were at work more than thirty percent of the total time.

Tables AIII.2 and AIII.3 show the source of income by location and occupation for the three areas studied. For the group living in the city, income of course derives largely from employment in the city. Only about one-third of all income of Gallup residents was earned in the area near the city, and a predominant portion of this had the Navaho Tribe as its source. Professions and crafts were the most important occupations from the standpoint of income among men living in Gallup. About one-third of the income in these occupations came from the Navaho Tribe, so these figures once again underscore a movement from the city of highly trained Navaho employees toward the Navaho Tribe when employment opportunities are available.

The group living in Neartown had three major areal sources of income of almost equal important and all of these had as their focus an area outside the community: 1) the more distant regional and national economy, about three-fourths of which was laborer type employment on the railroad; 2) the local regional economy, employment being primarily in a
military ordinance depot where several occupational groups were present and secondarily in Tribal activities requiring laborers; and 3) the nearby urban economy where employment was in a variety of occupations, but laborers predominated. In fact, laborers earned almost two-thirds of the income in both communities surveyed outside the city.

Back in Turquoise Valley half of the income derived from local sources, mostly Federal and Tribal public works jobs for laborers. Another one-fourth came from the local region where a Tribal sawmill was the most important employer, largely of laborers. The remaining income came almost totally from employment of railroad laborers in the most distant national region. Employment and income focuses on the local community and then on the area surrounding the Tribal capital (Fort Defiance-Window Rock) in the local region. Employment in the larger national non-urban region was provided largely through railroad work where hiring was done primarily on a local basis.

The degree to which these men have been integrated into the national, regional, or urban economy was, therefore, in part a function of accessibility between the areas of residence and the American economy.
## Table AIII.1

Total income and time employed of informants for one year period by industry and residence

<table>
<thead>
<tr>
<th>Residence</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Income, Per-cent</td>
<td>Time Employed, Weeks</td>
<td>Income, Per-cent</td>
</tr>
<tr>
<td>Gov't Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Govt.,</td>
<td>33,637</td>
<td>360</td>
<td>19,730</td>
</tr>
<tr>
<td>Total</td>
<td>19.3</td>
<td>21.8</td>
<td>22.7</td>
</tr>
<tr>
<td>Army</td>
<td>11,200</td>
<td>104</td>
<td>15,000</td>
</tr>
<tr>
<td>Ordinance</td>
<td>6.4</td>
<td>6.3</td>
<td>17.2</td>
</tr>
<tr>
<td>Bureau of</td>
<td>13,915</td>
<td>145</td>
<td>--</td>
</tr>
<tr>
<td>Indian Affairs</td>
<td>8.0</td>
<td>8.8</td>
<td>--</td>
</tr>
<tr>
<td>Public Health</td>
<td>8,012</td>
<td>104</td>
<td>3,100</td>
</tr>
<tr>
<td>Service Hosp.</td>
<td>4.6</td>
<td>6.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Accelerated</td>
<td>510</td>
<td>7</td>
<td>1,630</td>
</tr>
<tr>
<td>Public Works (ARA)</td>
<td>0.3</td>
<td>0.4</td>
<td>1.9</td>
</tr>
<tr>
<td>State Govt.</td>
<td>12,350</td>
<td>104</td>
<td>300</td>
</tr>
<tr>
<td>Navaho Tribe,</td>
<td>40,405</td>
<td>289</td>
<td>6,715</td>
</tr>
<tr>
<td>Total</td>
<td>23.2</td>
<td>17.6</td>
<td>7.7</td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Officer</td>
<td>--</td>
<td>--</td>
<td>650</td>
</tr>
<tr>
<td>Officer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Works</td>
<td>--</td>
<td>--</td>
<td>2,080</td>
</tr>
<tr>
<td>Other</td>
<td>40,405</td>
<td>23.2</td>
<td>3,985</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>Amount</td>
<td>% of Total</td>
<td>Average</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>Agriculture, Ranching, and Forestry (Off-Reservation Wage Work)</td>
<td>3,640</td>
<td>4.2</td>
<td>83</td>
</tr>
<tr>
<td>Agriculture &amp; Ranching (Pers.)</td>
<td>1,733</td>
<td>2.0</td>
<td>1</td>
</tr>
<tr>
<td>Mining</td>
<td>3,250</td>
<td>3.7</td>
<td>52</td>
</tr>
<tr>
<td>Construction</td>
<td>2,530</td>
<td>1.5</td>
<td>26</td>
</tr>
<tr>
<td>Railroad</td>
<td>4,500</td>
<td>2.6</td>
<td>52</td>
</tr>
<tr>
<td>Railroad</td>
<td>1,950</td>
<td>2.2</td>
<td>40</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>520</td>
<td>0.3</td>
<td>13</td>
</tr>
<tr>
<td>Wholesale &amp; Retail Trade</td>
<td>38,175</td>
<td>22.0</td>
<td>503</td>
</tr>
<tr>
<td>Business, Personal &amp; Professional Services</td>
<td>29,500</td>
<td>17.0</td>
<td>299</td>
</tr>
<tr>
<td>Unemployment Compensation</td>
<td>2,710</td>
<td>1.5</td>
<td>--</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>4,500</td>
<td>2.6</td>
<td>--</td>
</tr>
<tr>
<td>Totals</td>
<td>173,827</td>
<td>100</td>
<td>1,646</td>
</tr>
</tbody>
</table>

1) Amount of time employed in these activities could not be estimated accurately since much "free" time is frequently devoted to farming, ranching or political activities.
2) This was the only man whose income from this source was measurable in thousands of dollars. There were, however, thirteen other men living in the city who retained some livestock or farming land on the Reservation. No other income was attributed to them though since those taking care of these items received almost all of the benefits.
3) Automobile repair work is included.
TABLE AIII.2
TOTAL INCOME OF INFORMANTS FOR ONE YEAR PERIOD
BY LOCATION OF EMPLOYMENT AND RESIDENCE

<table>
<thead>
<tr>
<th>Source of Income by Location of Employment</th>
<th>Residence</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gallup</td>
<td>Neartown</td>
<td>Turquoise Valley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallup</td>
<td>Income, dollars</td>
<td>Percent</td>
<td>Income, dollars</td>
<td>Percent</td>
<td>Income, dollars</td>
</tr>
<tr>
<td>Gallup</td>
<td>102,882</td>
<td>60</td>
<td>22,120</td>
<td>27</td>
<td>--</td>
</tr>
<tr>
<td>Local Area of Residence (non-Urban)</td>
<td>--</td>
<td>--</td>
<td>5,843</td>
<td>7</td>
<td>24,210</td>
</tr>
<tr>
<td>Local Region, radius about 40 miles or less (non-Urban)</td>
<td>62,235</td>
<td>36</td>
<td>25,950</td>
<td>31</td>
<td>10,650</td>
</tr>
<tr>
<td>Non-Local Region, beyond 40 mile radius (non-Urban)</td>
<td>6,000</td>
<td>4</td>
<td>29,030</td>
<td>35</td>
<td>13,425</td>
</tr>
<tr>
<td>Total 1)</td>
<td>171,117</td>
<td>82,943</td>
<td>48,285</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) These income figures do not include unemployment compensation and winnings of a rodeo rider.
### TABLE AIII.3
TOTAL INCOME OF INFORMANTS FOR ONE YEAR PERIOD
BY OCCUPATION AND RESIDENCE

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Gallup</th>
<th>Neartown</th>
<th>Turquoise Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Income, dollars</td>
<td>Percent</td>
<td>Income, dollars</td>
</tr>
<tr>
<td>Professional</td>
<td>62,375</td>
<td>36.5</td>
<td>1,350&lt;sup&gt;1)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Own Business</td>
<td>12,750</td>
<td>7.5</td>
<td>--</td>
</tr>
<tr>
<td>Craftsman</td>
<td>48,090</td>
<td>28.3</td>
<td>14,940</td>
</tr>
<tr>
<td>Operative</td>
<td>16,090</td>
<td>9.5</td>
<td>9,710</td>
</tr>
<tr>
<td>Sales</td>
<td>3,200</td>
<td>1.9</td>
<td>--</td>
</tr>
<tr>
<td>Service Worker</td>
<td>8,012</td>
<td>4.7</td>
<td>3,100</td>
</tr>
<tr>
<td>Laborer</td>
<td>19,800</td>
<td>11.6</td>
<td>52,760&lt;sup&gt;2)&lt;/sup&gt;</td>
</tr>
<tr>
<td>Farming &amp; Herding&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>--</td>
<td>--</td>
<td>1,733</td>
</tr>
<tr>
<td>Miscellaneous&lt;sup&gt;4)&lt;/sup&gt;</td>
<td>2,910</td>
<td>--</td>
<td>3,500</td>
</tr>
</tbody>
</table>

<sup>1)</sup> Money earned in part-time employment includes men who hold a community political office and a rodeo rider.

<sup>2)</sup> Includes all off-reservation farm labor and all public works jobs whether laborer or foreman on a project.

<sup>3)</sup> Includes income obtained from own herd or farm or if worked for parents or other relatives. Only one man's income was so high ($5,000) that it was classified as his "own business."

<sup>4)</sup> Primarily unemployment compensation, not included in arriving at percentages.
APPENDIX IV

DEFINITIONS OF NOTATION AND METHODS
USED IN ANALYZING VALUE ORIENTATIONS

Each informant is usually asked to rank three alternatives when dealing with a question from the value orientation schedule—from most preferred (rank 1) to least preferred (rank 3). This means that six different response patterns are available, or six rankings of the value orientation positions. If each alternative is designated by A, B, and C the six available rankings are (">" means "is preferred to"): A>B>C; A>C>B; B>A>C; B>C>A; C>A>B; and C>B>A. Another way of analyzing responses is by pairs of alternatives. There are three pairs of alternatives (again using the above designation system): A,B; B,C; and A,C. Within each pair of alternatives an informant chooses one preferred response: A>B, or B>A; B>C, or C>B; and A>C, or C>A. Both of these procedures for describing value orientation responses were used to present the results.

Within Group Analysis

For the analysis of data within each location summarized in Table 7.1 the method of looking at preferred paired responses was used. For example, within the city for question R1 it was determined how many times the Collaterality response was preferred to the Lineality
response. Then the null hypothesis of no preference between either response was tested (two-tailed test). In this case the Collaterality response was preferred significantly more frequently to the Lineality response at the five percent level of significance. This procedure for testing differences in responses was repeated for each set of paired alternatives for every question in all three areas of residence.

The symbolic notation for within group preference patterns shown in Table 7.1 is defined as follows:

1) \( A>B>C \), signifies the three preferences (A over B; B over C; and A over C) hold at the five percent level;

2) \( A>B>C \) means only two preferences (A over C; and B over C) are significant at the five percent level; while A is preferred to B more often the results are not significant;

3) \( A>B>C \) again signifies only two preferences (A over B; and A over C) hold at the five percent level;

4) \( A>B>C^* \) means only one preference (A over C) is significant at the five percent level;

5) \( A>B>C^+ \), which occurred only once, signifies only one preference (B over C) holds at the five percent level; while A is preferred to B or C, neither response pattern is significant;

6) \( A>B>C \) means that no alternative within a pair of responses is chosen significantly (at the five percent level) more often; and
7) as occasionally happened each preference within a pair of responses was chosen an equal number of times (or twice all of the rankings added up to the same number for a pair of responses), and an "=" was used to show this occurrence.

Between Group Analysis

The analysis of data between various groups within any given area of residence, or between groups living in different locations is straightforward and need not be outlined any further. However, different procedures are used to present the responses of various informants. Sometimes only selected preferred paired responses are shown since such a method provides the most information about a question (the sign "\( > \)" means "is preferred to" in all of the tables in Chapter 7 except Table 7.1). On other occasions data are best presented by analyzing the complete rankings of the value orientation positions. In most of these instances only the first-rank preference is important in the total of three positions—that is, whether it is A or B or C that is most preferred of the three possible solutions.

Differences in responses between the several locations for all the items in two value orientation areas (Relational and Man-Nature) was also tested. This was accomplished by using pairs of alternative responses and a one-way analysis of variance. This procedure for analyzing the data is found in various sources noted in the text.
FOOTNOTES

CHAPTER 1


11. The causes of poverty in an underdeveloped economy and of insufficient economic growth generally advanced in the literature are numerous. This chapter covers some factors receiving considerable emphasis in current writings on poverty and economic growth. Many of the deleted factors may be found in standard texts on this subject, which include: Higgins, op. cit.; Charles P. Kindleberger, Economic Development (New York: McGraw-Hill Book Co., Inc., 1958); W. Arthur Lewis, The Theory of Economic Growth (London: George Allen and Unwin, Ltd., 1955); and for a good short review see, Galbraith, op. cit., chapter 11.


16. Robert W. Young (ed.), The Navajo Yearbook (Window Rock, Ariz.: Navajo Agency, 1961), p. 213. This Yearbook has been published in various years and compiles data from numerous sources.

17. Ibid., p. 228.

18. Navaho family income places the economic position of Navahos higher than these statistics indicate. The average Navaho family consists of about five members, while the rest of the nation is usually placed at slightly over three. Even so, Navaho per capita cash income has increased by about 550 percent between 1940 and 1960, whereas, for the states of Arizona and New Mexico the combined per capita income figures given increased by somewhere between 240 and 330 percent for the seventeen year period 1940 to 1957 with income reaching $1600 to $1700 per capita per year. The increase in Navaho income has also taken place despite a rapid increase in their population, estimated at 2.4 to 3.3 percent per annum between 1930 and 1960. See, Robert W. Young (ed.), The Navajo Yearbook (Window Rock, Ariz.: Navajo Agency, 1958), pp. 107-108; and Dennis F. Johnston, "An Analysis of Sources of Information on the Population of the Navajo" (Unpublished Ph.D. dissertation, American University, June, 1961), quoted in Young (ed.), op. cit. (1961), p. 321.

19. In fact, it has been estimated that in 1957 about half of the world's population lived in countries whose average per capita income (based on Gross National Product and then current foreign exchange rates) was below $100; and eighty-five percent of the World's population lived in countries where this figure was $600 or less. See, Everett E. Hagen, "Some Facts About Income Levels and Economic Growth," Review of Economics and Statistics, XLII:62-67, February, 1960, pp. 62-63.

20. The oldest such community is Fort Defiance established in 1851 as an Army post. It is also probably the largest center on the Reservation, with about 1500 people in 1959, thirty to forty percent of whom were non-Navahos. James W. Bosch, Fort Defiance: A Navajo Community in Transition (Window Rock, Ariz.: The Navajo Tribe, 1961), pp. 1-2, 6-7.


24. Hagen refers to these types of values as manipulative values, *op. cit.* (1962), pp. 114, 115-118.


27. Hagen, *op. cit.* (1962), especially chapters v and vi; and McClelland, *op. cit.*, especially chapter ii.


29. The research is directed toward ascertaining the success groups of individual Navahos have had in being integrated into the larger economic life of the United States. However, there are numerous opportunities within the Reservation itself for participating in economic activities, some of which are not substantially related to the United States economy. These activities will also be examined in the thesis. These facts do not detract from the testing of hypotheses concerned with the influence of location and human resources on Navaho economic growth. Hypotheses are derived from current literature on economic growth, a literature which partly uses research data from various areas in the United States, including Indian reservations. Nevertheless, it might still be maintained that economic growth is bound to occur on an Indian reservation located in a wealthy country like the United States. Unfortunately this statement does not explain why this growth has been absent among many Indian groups. The less numerous Sioux are such a group. On two of their Reservations 14,000 Sioux in 1956 had an estimated median per capita income well below $300 (Hagen, *op. cit.* 1962 , pp. 472, 484.) Furthermore, because of its affluence the United States furnishes a
unique area for the rigorous testing of hypotheses related to an expanding Navaho income. For, if some of these hypotheses are rejected in such a setting this is a stronger test than one attempted within a poorer overall economy. However, this study will have to consider some of the historical elements related to Navaho economic growth and social change. One of these is the role of the Navaho political structure and the United States Government.


4. Some needs are physiological in origin. The needs discussed here however, are not those common viscerogenic hungers stemming from biological causes. It should also be noted that even though many needs are conscious, individuals are frequently unaware of these needs.


7. Ibid., p. 409. See also, Talcott Parsons and Edward A. Shils, "Values, Motives and Systems of Action," in ibid., p. 59, for a similar but less vivid definition. At another point C. Kluckhohn more formally defines a value orientation "as a generalized and organized conception, influencing behavior, of nature, of man's place in it, of man's relation to man, and of the desirable and nondesirable as they may relate to man-environment and interhuman relations." These value orientations, like values, may be held by individuals or groups, and "vary on the continuum from the explicit to the implicit." C. Kluckhohn, op. cit., p. 411.

8. Ibid., p. 398.


17. For example, see various articles in Atkinson (ed.), op. cit.; and McClelland, Atkinson, et al., op. cit.


19. Four pictures have been used in numerous experiments. Four to six stories are usually sufficient to obtain a sample of a person's imaginative thoughts. The pictures used here were variations of pictures 2 and 7 BM found in the original TAT manual of Murray, op. cit. (1943); and variations of two photographs shown in McClelland, Atkinson, et al., op. cit., pictures B and H facing pp. 100, 101. The author is grateful to G. Noel Kurilko for drawing these variations.

20. Scoring was done by Mrs. Ann Litwin. Stories were coded so that the scorer was unaware of who the informants were or where they were from.


22. Ibid., p. 4.

23. Ibid., p. 12.
24. For the definitions of the various alternatives found in this section see, ibid., pp. 11-19.

25. Ibid., especially chapter iii. In this research instrument no consideration was given to the "human nature" problem, and the "activity" orientation area was divided only into Doing and Being solutions. Each question delineated a life situation thought to be common to rural, or folk, societies and then offered alternative solutions to this problem. The questions provided alternative solutions that expressed the individual's value orientations according to the postulated range of variations. The solution to each question can be thought of as a value, and since solutions and questions are part of a general and organized scheme this allows the results to be presented as a set of value orientations. The following section summarizes many parts of the above mentioned source.

26. Ibid., p. 29. Also see Hagen, op. cit., p. 118 fn. He also believes that this particular set of value orientations would appear to be conducive to technological progress. However, while Hagen strongly asserts that values are an important aspect of economic growth, he stresses a system of classification which contrasts moral with manipulative values. Ibid., pp. 114-118.

27. Parsons' "pattern variables" represent a series of five dichotomies (Affectivity vs. Affective neutrality; Self-Orienta-tion vs. Collectivity-orientation; Universalism vs. Particu-larism; Ascription vs. Achievement; and Specificity vs. Dif-fuseness), and according to Parsons only when a choice between each dichotomy is made by an actor does any situation have meaning. These "pattern variables" are primarily categories for describing value orientations, which delineate preferred alternative areas of action in a given situation. But, since Parsons believes that in personalities need dispositions and value orientations tend to be linked, he also suggests that these "pattern variables" can be used to classify possible types of need dispositions. While this may be so, the "pattern variables" are more closely related to value orientations and Hagen has in fact considered them only as moral values. Ibid., pp. 120-122. (Kolb also uses the "pattern variables" to dis-cuss value orientations in relation to American urban-indus-trial growth; William L. Kolb, "The Social Structure and Func-tion of Cities," Economic Development and Cultural Change, III:32-46, October, 1954.) Both the Parsons and F. Kluckhohn schema represent ways an individual or group might view a given situation or problem. While there is some overlap in each system they are substantially two different methods of arriving at value orientations. This in part derives from the fact that Parsons' "pattern variables" reflect a strong interest in the determination of role-expectations, whereas,
the F. Kluckhohn instrument is geared to the solution of general human problems in a world of both social and non-social objects. The latter construct is closely related to world view. See, Parsons and Shils, op. cit., pp. 76-84, 88, 92-93, 235-236. Also, Talcott Parsons, The Social System (Glencoe, Ill.: The Free Press of Glencoe, 1951), chapters I and II. The "patterns variables" appear first in this source, p. 67.


29. The fact that in such a questionnaire answers are likely to be a mixture of the normative ("what ought to be") and the existential ("what is") complicates the issue, but this is part of the definition of value orientations. However, the existential and normative judgments quite often will be exactly alike.

30. It should be pointed out that nothing has been said either about the possible inter-relation between motives and values. For example, a particular set of motives might be conducive to the development of certain value orientations, or vice versa. The relative independence of these variables certainly cannot be judged at this time.

31. Approximately all school children now receive an education. However, in the early 1940's only about one-third of the school age children received an education. This proportion was about one-half in 1950, and rose to over ninety percent by 1957. See, Robert W. Young (ed.), The Navajo Yearbook (Window Rock, Ariz.: Navajo Agency, 1958), p. 356.

32. Only earned income was considered. Gifts or any relief in the form of goods or money not earned by labor were excluded. Unemployment checks were regarded as earned income since they were acknowledgments or previous labor. Income from crops and stock was obtained by estimating products sold and consumed by a family. The proportion of time an informant spent in this occupation in relation to the rest of the family was his portion of the earned income.
CHAPTER 3

1. Robert W. Young (ed.), The Navajo Yearbook (Window Rock, Ariz.: Navajo Agency, 1958), pp. 176, 372, 374. For much of the discussion in this section refer to the maps on pages 31 and 32. Included within the Navaho area is the Hopi Indian Reservation which is located near the center of the Navaho area. While there is currently a land dispute between the two tribes, the Hopi Reservation has a listed area of only one-half million acres and in 1950 the Hopi population was approximately 4000. Ibid., pp. 324, 374.

2. Ibid., p. 356.


5. "Traditional" refers to the last few centuries. Sheep, goats and horses were introduced into Navaho life late in the 16th or early in the 17th century with the arrival of Spaniards in the Southwest. Even today almost every acre of land is used for grazing. In 1955 only about 67,000 acres of land were farmed; 36,000 by dry farming methods and 31,000 by irrigation. Ibid., pp. 378, 394.


8. The source material for this summary is given in Chapter 6.

9. While Albuquerque is a large city its direct influence on the Navaho area is very small. According to the 1960 census only 2001 Indians lived in the Urbanized Area (ibid., p. 31), or fewer than lived in Gallup in 1960. Of these probably relatively few were Navahos because of the distance factor and since there are a number of other Indian reservations in the Albuquerque area, several actually within the Standard Metropolitan Statistical Area.

10. "Other Races" provide an adequate measure of the Indian population in years before 1960, and an overwhelming majority of these can be assumed to be Navahos in Gallup. The nearest non-Navaho reservation is Zuni, forty miles away with a population of about 2500 in 1950. Young (ed.), op. cit. (1958), p. 325.
11. Navahos were never constrained by the Reservation boundaries shown on the map of page 32. And the area surrounding Gallup has been occupied by Navahos for about as long as any lands on the Reservation.

12. A fictitious name. For the record, both communities outside the city were in a steppe zone with poor to fair soils for grazing.

13. Based on an approximation of the number of men in the community twenty to fifty-five years old and the ratio of these men to total population (fifteen to twenty percent) given for other communities. Young (ed.), op. cit., (1961), p. 326, shows an estimate of thirty to thirty-five percent for both sexes in this age group throughout the Reservation.

14. Many communities throughout the Reservation have a school located in them. This school had less than 200 Navaho boarding students and a staff of thirty-three people. Ten of the staff were Navaho men and four of them lived in the community. The others lived at the school and were not considered part of this community.

15. Probably somewhere near 1700 assuming about fifteen percent males twenty to fifty-five years old on the average in a community. Ibid.

16. Title to this individually owned land is also held in trust by the Government for the recipients or their heirs. Ibid., pp. 262-263.

17. Ibid., p. 263.

18. Information obtained from Branch of Realty, Bureau of Indian Affairs, Window Rock, Arizona.


20. Any overall effect was not noticeable though.


22. Ibid., and estimating from field experience.

23. A United States Geological Survey team was temporarily residing in Gallup at this time and they were kind enough to assist in reading these photographs. I am particularly grateful to Donald Arries for the very helpful assistance he gave on several evenings.
24. This is in the area about five to fifteen miles from the city. Because of financial constraints it was decided to exclude one small area near an Army ordinance depot where Navahos had in-migrated for jobs and built their own dwellings.

25. When men could not be interviewed because of age or health, or because their residence was no longer in the community, the male living in the nearest dwelling unit was substituted in his place.

26. Of the five non-urban communities where research was carried out relations with the people and leaders were good in four of them. Only in one community was there a lack of acceptance and this was partly because of a transition in leadership and the fact that no community meetings were scheduled which could be attended. A substantial proportion of the refusals to cooperate came from this area.

The author owes a debt of gratitude to the many Navaho community leaders who took an interest in the study and laid the groundwork for the acceptance of the author in the community.

27. The complete research schedule and all of the instructions are found in Appendix I.

28. This was thought to be superior to a microphone and tape-recorder which would probably have had an inhibiting effect.

29. All ages were checked with the Vital Statistics Section, Administrative Division, Navajo Tribe, Window Rock, Arizona. Birth dates for over ninety percent of the men were found and these ages coincided accurately with the ages given by informants.

30. Degree of Indian blood was also verified with the Vital Statistics Section of the Tribe.

31. Even the one with a Caucasian father spoke Navaho. However, there was one full Navaho who was orphaned at an early age and raised by Caucasian parents. He was still considered a Navaho since he had a Navaho wife and had spent his life among Navahos.
1. Although some stories received a negative score (Unrelated Imagery) this was offset by other stories receiving a positive score (Achievement Imagery), so that no overall negative score was obtained.


3. This method of dividing the population will be used frequently, but the method will not be detailed. In this instance, it would have been better if those scoring two and three could have been dropped from the sample since they lie right at the middle range. Because of the number of men involved relative to the sample size this was not possible.

4. Among the men living in the city a bias in n Achievement scores was not introduced because of language. Of the ten men responding to the TAT in Navaho eight scored in the High category, and of the twenty-five men doing the TAT in English twenty had High scores. And in all areas no variation in scores was noted because English stories were written or given orally. In addition, for the total sample, story length was not related to n Achievement scores. For all 108 men (this includes several entrepreneurs in Chapter 8) the median number of words used in all four stories was 344.5. Of the sixty-one men having scores of three or more thirty-one gave stories containing a total number of words below this median level. Therefore, a bias in scoring was not introduced because of individual valuableness and no correction was required.

5. All chi square statistical tests in this study have been corrected for continuity when the data appear in a 2 x 2 contingency table. The methods used in the chi square and median tests are those found in standard texts, see Sidney Siegel, Nonparametric Statistics (New York: McGraw-Hill, 1956), pp. 42-47, 104-115, 175-184. Nonparametric methods are used almost exclusively in the study, and in the testing of hypothesis the five percent (p = 0.05) level of significance is used to accept or reject hypotheses. When testing hypotheses a one-tailed statistical test is used. With respect to the level of significance there is no reason for adhering rigidly to such an arbitrary size of the rejection region. However, for the type of information being analyzed here it is practical to set some standard for accepting or rejecting a hypothesis (see, ibid., p. 8 fn.), and the five percent level was thought to be about optimum.
6. Number of years of education received by informants could not be checked against existing records.

7. Included in the sub-sample living in the city were seven Navaho men who had attended college for a few weeks up to five years to obtain a graduate degree. Outside the city, no informant had entered college. In the city there were only seven men who spoke little English. However, for the number of years spent in school many men still had a language problem. Outside the city about half the men in each area spoke only Navaho, or almost no English.

8. Also, the desire for personal accomplishment was necessary at a young age sometimes in spite of the jeering of other Navaho children in the same school. As one informant related: "It was very hard to learn. The other children made fun of you if you spoke English. They'd say, 'here comes a white man'."


10. But still only about twenty percent of the variation in one variable can be explained by the other. This indicates that these two factors still maintain a relatively high degree of independence, although Chapter 5 presents further results suggesting reasons why these variables are related. Also, this correlation coefficient is possibly spurious if it is thought to be representative of the general Navaho population in this age grouping. The various locations were not randomly chosen and the total sample population may be weighted in favor of migrants, who being characterized by high levels of each factor contributed to such a high coefficient.

11. Many of the discussions in this chapter consider how economic activity was influenced by education and achievement as if these two variables were completely independent of one another. Previous remarks and Chapter 5 indicate that these two variables were inter-related. Therefore, the analysis is not quite satisfactory. Unfortunately, the data are such that no correction is possible, and methods used are the only ones which can estimate the significance of these variables on economic activity.

12. Included in the city workers were men who when interviewed worked in the city, or who had worked there in the past. All men had worked at least six months in the city. Excluded were two men who worked in the city two months or less because an employment office found them jobs and they had to take them or lose their unemployment compensation. Also excluded were
two railroad laborers who at times were placed in railroad housing near or in cities, and a man who signed up for work and was sent once to a city.

13. There could still be some selectivity between occupation and education among those working in the city. But when the datum was analyzed, those with jobs above the status of laborer did not have a median level of education differing from that of laborers. A discussion of occupation, achievement motivation, and education is found elsewhere in this chapter.

14. In the "Remaining Population" (Tables 4.7 and 4.8), eighteen men worked with groups of Navaho men in the regional economy, of which sixteen were laborers. Considering those four men in this group who had high \( n \) Achievement scores, (three or more), two were quite young, but one had already distinguished himself in rodeo competition. Of the two older men, one, while participating in the non-Navaho regional economy, had risen from laborer to carpenter by learning this skill on the job. The combined length of time spent in school for those relatively successful men was two years.

15. Of the thirty men interviewed in Turquoise Valley eight had high \( n \) Achievement scores (three or more) along with five or more years of school. Seven of these eight were between age twenty-five and thirty and were single or recently married.

16. This included five of the seven men in this group.

17. Only one man out of twenty past age thirty had both an education and \( n \) Achievement score above the community medians.

18. The local community in this case was considered everything within about a radius of twenty-five or thirty miles from its center. Within this area were two small government employment field offices about fifteen to twenty miles from the center. Fort Defiance and Window Rock lie beyond this radius. Men not seeking jobs outside the community seldom found jobs through one of the employment offices, but often had jobs come to them. This included quite a few railroad and agricultural jobs where employers came to the community to recruit--usually for short term employment.

19. But if the categories in Table 4.9 are changed to better reflect community characteristics the results become even more significant. If High and Low \( n \) Achievement scores are changed to two or more and 0-1 respectively, seventeen men come under the High category and thirteen under the Low, and \( X^2 = 4.9 \).
20. "Applied to non-Navaho Owner" means an informant applied for a job where the business was run by a non-Navaho. The one labeled only "Applied to Employer" was used to indicate that who he applied to could have been Navaho or non-Navaho; and "Employer" in this case was a government agency or the Navaho Tribe.

21. Included in "low income farmers" were men below the median farm income (see page 86) who had no other job during the year. The "Miscellaneous" group includes men who went to employment offices or who got jobs from employers looking for workers in the community. In some cases a degree of education or achievement motivation may have been required by an informant for securing the job, but the data could not be classified in any consistent manner.

22. Occupation shown is the "highest" one (in the order presented) achieved by that person in his working history if he worked at least a year at that occupation. No man had been exclusively a farmer or herder during his life so that this category was excluded. Occupational groupings are those detailed in U.S., Bureau of Census, Eighteenth Census of the United States: 1960, Characteristics of the Population, I.

23. Seven of these ten men had gone to college.

24. Of the seven Neartown laborers who had worked in the city and the ten laborers in Turquoise Valley who had travelled long distances seeking jobs, eleven received n Achievement scores above the median, whereas only eight men were above the median level of education. Also, of the seven Neartown men who had been craftsmen at one time, six had found employment in the city.

25. Of six such jobs in the city all had n Achievement scores above the median.

26. The accuracy of this income datum is estimated in Appendix III (see footnote 1). Also shown in Appendix III is a breakdown of sources of income by industry, location, and occupation, along with some information about how and why these sources have been changing.

27. These figures are not an attempt to estimate total family income. The amount contributed by wives through wage work, herding, and farming or weaving rugs and so on would increase family income. However, it is estimated that three-fourths of all the income within the families was earned by the informant interviewed. Also, no correction was made for many school age children living outside the city, especially in
Turquoise Valley, who attend school away from home for most of the year. Room and board are provided while they attend these schools. And finally, Navahos often use a part of their income to help relatives in the extended family, introducing another correction factor.

28. This difference in income would have been even more drastic without substantial public works programs in Turquoise Valley. See Appendix III.

29. Those living in the city were employed almost all year. This data included several men in the city who had migrated to the city in search of employment and who were still without work. However, the figures for other locations are somewhat distorted since these numbers do not include time spent in activities such as herding or farming which could not easily be converted to the other system of hourly wage work or other types of self-employment. Generally in "free" time men will be farming or herding, or doing other home or community chores.

30. Hypotheses in the next chapter show that levels of education and achievement motivation do not differ substantially in the two areas outside the city.

31. Income per person in informant's family (using only informant's earned income) was used because it put every man in an area regardless of age on a more equal footing. Those working longer at a job generally earned more income and this could be equalized by a younger man only because he had a smaller family. However, because per capita income was used those men supporting only themselves were dropped from the sample. If total income had been used some older men would have been at a disadvantage. It could be argued that total income should be the measure for those living in the city and per capita income for those in other areas. The rationale being that those living outside the city might participate in the American economy to the extent that a certain family income could be earned, depending on family size. After that was reached they would participate more fully in local affairs. This in fact did seem to occur among some men, especially older men with a greater stake in, and value for, family and community life and where commuting was not always easy. Those living in the city though might be more likely to have their total income be a function of ability in one form or another, since their jobs were usually for the total year (see succeeding footnotes).
32. Using informant's earned income this difference was even more dramatic: \( \chi^2_{n \text{ Ach.}} = 0.25 \) (N.S.), and \( \chi^2_{\text{Educ.}} = 10.4 \) (p < 0.005). A few men with high \( n \) Achievement scores had low total and per capita family incomes because they had lost their job and were in the city in search of employment.

33. Of the sixteen men with high incomes six had occupations above the status of laborer, whereas six were railroad laborers. Of those with high per capita family incomes seven worked at least part of the year in the city.

34. Six of the eleven men were in this group, and these were men with high \( n \) Achievement scores. Using informant's total income rather than per capita family income as a measure of economic well-being the datum would still be significant for this area (\( \chi^2_{n \text{ Ach.} + \text{Educ.}} = 3.2 \); p < 0.05), but not as dramatic. Near the city the results would not be significant for total income, unless some of the older men were dropped from the sample.

35. A separate group of Navahos have not thus far been singled out for investigation, and this is the group who earned the highest incomes in farming or ranching and who spent a large part of their time in this pursuit. Outside the city total income from this source was about $11,500 for thirty-eight families visited (or a total average income of about $300, whereas total median income was about $200). Of this, approximately $4,500 was earned by twenty-six informants, with the remainder being earned by other members of the family. Among those men who spent a large part of the year farming and ranching and who were the persons largely involved with managing these resources (that is, they did not recently marry into a family with such wealth, or just assist parents and relatives in managing these resources, but actually made the decisions determining crop and animal production), those with higher levels of achievement motivation had higher total incomes originating from crops and animals. Of twelve men outside the city (six in each area) who were primarily responsible for family farming and ranching, who did not have full time wage jobs, and who had a total income from this source in excess of the approximate median of $200, those with higher overall incomes had higher \( n \) Achievement scores (\( p = 0.04 \); Fisher exact probability test, see Siegel, op. cit., pp. 96-104), but not more years of education.

<table>
<thead>
<tr>
<th>Total Income from Crops &amp; Animals</th>
<th>n Achievement Scores</th>
<th>Education, years</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, above $400</td>
<td>Low, 0</td>
<td>0</td>
</tr>
<tr>
<td>Low, below $400</td>
<td>High, 1 or more</td>
<td>2 or more</td>
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</table>
Evidently those with high achievement motivation not only were likely to make moves to participate in the non-traditional urban society and to learn new occupational skills, but they were also the ones who were most prosperous in traditional activities. (Also, of four silversmiths, a traditional Navaho craft, all had high Achievement scores of two or more.)

36. In this context it was at one time the policy of the Navaho Tribe and the Bureau of Indian Affairs to attempt to attract industry and investment capital to those non-Navaho cities along the Reservation boundary. See, Robert W. Young (ed.), The Navajo Yearbook (Window Rock, Ariz.: Navajo Agency, 1957), p. 74. If general Navaho economic growth was to result from investment in this system of cities the foregoing indicates that such an argument was fallacious, since only a particular segment of the population would be drawn to these jobs. It is also doubtful if many new jobs would have been created, because these would surely often be the same men who would find employment outside the Reservation anyway. An investment policy of this nature could have been tenable probably only if accompanied by a campaign to recruit employees throughout the Reservation, along with a housing program designed to accommodate employees and their families in the city. Individual innovation and risk-taking requirements would thereby be minimized. However, the acceptability of such a project, measured in both economic and human terms, would be extremely questionable when compared with investment on the Reservation.
CHAPTER 5

1. For those living in the city the approximate sub-sample median \( n \) Achievement score was used to divide the population. The data for length of residence in the city did not require further stratification with respect to age since the Spearman Rank Correlation coefficient for age and \( n \) Achievement Scores was statistically insignificant (\( r_s = -0.007 \)) for the city sample. This correlation coefficient was also insignificant for data from the other areas.

2. The dividing line for \( n \) Achievement scores was kept at 2.5 because exactly the same numerical imbalance occurred at 1.5 (chi square equals 0.00 for the 1.5 median). Since the total sample median was about 2.5 this dividing line was kept wherever feasible in this study.

3. Also, of the eight men resident in the city four or less years, seven had \( n \) Achievement scores above the combined sample median of three.

4. Alternative II of Table 5.3 provides the most conclusive evidence for this statement, although use of the chi square test may be inappropriate. When combining squares and using the Fisher exact probability test the relationship is still significant (\( p \approx 0.02 \)). Also, age did not influence the data since education was not significantly related to age (\( r_s = -0.04 \)) in the sample of city men.

5. As in all such tests results are only tentative since nothing is known about men born in these areas who left. It is felt that if anything results thus far presented would be reinforced if these migrants were interviewed since those with higher levels of achievement motivation and education were the ones likely to move toward the city where there were more job opportunities. Also if the two in-migrants were dropped from the Neartown sample the results in Table 5.4 would be even stronger in the direction cited (\( \chi^2 = 1.3 \)).

6. Although the results are not statistically significant, it is interesting that the most inaccessible area appeared in fact to lead in sending its children to school at one time. The value of education had penetrated deeper into the fabric of this community where contact with the non-Navaho society was least. This may be one reason why in Turquoise Valley the Spearman rank correlation coefficient for age and years of education was statistically significant (\( r_s = -0.45 \); 28 d.f.; \( t = -2.6 \); \( p < 0.01 \), one-tailed test), that is, the younger men had received more years of education. However,
near the city the rank correlation coefficient for these two variables was not significant \( r = -0.22; 33 \text{ d.f.} \text{[immigrants not included]} \); \( t = -1.38; p \approx 0.10 \), one-tailed test. At the time of the study, though, almost every child in both areas was going to school, many by bus to State public schools and the rest to Government boarding schools. Education has been accepted.

7. Data are presented for the "Total Sample" here, and often in the remaining part of this chapter. This includes the entrepreneurs in Chapter 8. When asking an informant how he happened to go to school, no prompting took place. An informant related the experience as he remembered it.

8. Fourteen out of eighteen men were above the median, which is statistically significant when compared with the rest of the population in Table 5.5: \( \chi^2 = 2.8; p < 0.05; 1 \text{ df and one-tailed test} \).

9. Some of these took the form of putting the informant in a particular type of school that a parent thought was better; and others showed that education was important by carrying their children long distances. But also a definite want or desire for an informant's education was shown. Answers to "how did it come about that you went to school" included the following: "Through father, he urged..."; "I was advised as to necessity of education"; "Parents put me in, wanted me to go, and knew the value of education"; "Dad realized--believed strongly--education was the only answer in dealing with white men. Understood importance of education for children."; "Mother wanted me to go to school; wanted an education..."; and "Parents put [me] in school and wanted me to learn."

10. It is worth noting (see Table 5.5) that less than half of the informants (eight of eighteen) had at least one parent or person who raised them with any education. However, this proportion was larger than for the group of men previously discussed who pushed themselves to school. Having a parent with some education was a benefit since they probably valued education more.

11. Fourteen of eighteen men, again statistically significant when compared with the rest of the population in Table 5.5: \( \chi^2 = 2.8; p < 0.05; 1 \text{ df; one-tailed test} \).

13. In the group discussed previously the environment for high achievement motivation was probably created, but education was not valued as highly (see footnote 10).

14. This group of informants contained the highest proportion of parents who had attended school. This probably accounts in part for the value they placed on education.

15. A rather extreme example was the man outside the city with a high score who borrowed books and taught himself auto mechanics. But there were many examples of men who put themselves through school or learned trades in the face of many obstacles. All twenty-three men in Table 5.6 had n Achievement scores above zero and only seven were below the median level of education for the total sample.

16. It is tempting to conclude that those with high n Achievement and a high level of education obtained the latter because of the former. Much of the data point in this direction. However, unaccounted for is the group who received a high level of education without high n Achievement scores. This might be written off as experimental error, though it seems more likely that usually it was due to internalizing a value for education (one way to obtain this value seems to have been by having a parent who went to school), but not the drive to achieve. These did appear to be the men who frequently obtained their jobs by chance rather than effort. Also, simply providing opportunities for an education allowed some men to go relatively far in school.

With respect to the group with high education and n Achievement scores, a testing of the second part of Hypothesis 3 in Chapter 4 cannot be presented. While the evidence tends to support the idea that most of these men had a degree of n Achievement before they went to school or went on for more education, and that this, therefore, appears to be an important factor in attaining this level of education, it is still possible that achievement motivation was
enhanced by accomplishment and success at school. The research design was not set up to accommodate this conjecture. It was noted, however, that living in or near a city appeared to have little effect on achievement motivation. Contact and competition at this level did not increase this motive. But for those living in the city the contact was primarily at an adult age when the personality had already gone through considerable development, and the comparison may not be valid.

17. The fifty-four migrants included in Table 5.8 were men who moved to obtain steady jobs, and excluded more temporary moves for farm employment and railroad work. Of these, it is known that at least thirty-two worked in cities at various distances from the Reservation; thirteen had migrated to different areas on the Reservation for jobs, and six lived and were employed near a city outside the Reservation. The exact whereabouts of several migrants was unknown.

In compiling information an informant was almost always asked to include only brothers with the same mother and father.

18. Some brothers with considerable achievement motivation may not have moved because they had good jobs, or because they valued farming or herding. For example, included in the non-migrant siblings of men with high n Achievement scores were two business owners and one professional carpenter. Besides it is not claimed that there was a lack of variation in achievement motivation among siblings. But what is important is that between family variation was apparently significant. With regard to level of education among brothers this information was not readily obtained. Informants usually knew the location of brothers, but were very hazy on whether they went to school or how much education they received.

19. The non-traditional occupations included: plasterer, carpenter, painter, engineering draftsman, professional interpreter, store and business owners.

20. An informant was never asked about his father's wealth. This information was offered without direction. Among the other fathers relative wealth could also have existed.
21. This conclusion does not substantiate McClelland's hypothesis, derived from other studies, that the absence of the father during particular early stages of a son's growth should be conducive to the development of higher achievement motivation. David C. McClelland, op. cit. (1961), pp. 404-406. Unfortunately in these instances where the father had died or left the family no information was obtained concerning the mother's remarriage.

22. Statistically n Achievement scores differed significantly between these two groups using the median test ($\chi^2 = 12.5; p<0.0005; 1$ df; one-tailed test). Men whose fathers were farmers or herders of unknown wealth or who worked primarily in the non-Navaho society formed a middle-range group, and their n Achievement scores on the one hand did not quite differ significantly from the scores of the men whose fathers had high status occupations ($\chi^2 = 2.45; p>0.06; 1$ df; one-tailed test), but did differ significantly from the scores of men whose fathers worked in both societies or who were absent from the family ($\chi^2 = 3.1; p<0.05; 1$ df; one-tailed test).

23. For those anthropologists concerned with groups of people caught straddling two societies without a firm economic or social base in either one, this group is of special significance. Their psychological problems in this instance appear to be passed on in the form of low achievement motivation in their off-spring and, if this is generally true, it adds credence to the approach of some who view certain men as being caught between two worlds. Their problems become their children's problems, even if in different form.

24. Rubin has shown that among Negroes in a Mississippi county, farm owning families provided a proportionally large number of kin migrants, especially to urban-industrial areas. This occurred despite the fact that these families had the least personal experience in migration and urban living. Here is another example of families with valued occupations of relative status and wealth producing the migrants, or innovators of economic change. See, Morton Rubin, "Migration Patterns of Negroes from a Rural Northeastern Mississippi Community", Social Forces, XXXIX:59-66, October, 1960, pp. 63, 66.
25. It has not been shown that fathers with high achievement motivation have sons with a similar characteristic, although this would be generally suspected. However, there is no reason to assume that the transfer would be a simple procedure. An atmosphere of job and self-valuation and personal success may be the over-riding consideration, and where the father is a tradesman or a prosperous herdsman this may be coincident with high achievement motivation, or some fathers may behave in other ways that create a home environment conducive to the development of high achievement among sons. The acquisition of achievement motivation is complex and a simple transfer hypothesis should be discarded for lack of sufficient evidence, at least in the Navaho case.

On the other hand, neither is it possible to think of economic change and growth by omitting the concept of achievement motivation and attempting to view the participation of Navahos in non-Navaho economic activities simply as a transfer of occupational skills from father to son. In twenty-seven examples where the father had a profession or trade of high status in either society, fourteen interviewed offspring also had occupations in this status range. But only one of these men had an occupation similar to his father's. In addition, out of twenty-seven examples where the father was primarily a stockman, nine informant sons held jobs at the professional or craftsman level in the non-Navaho or emerging Navaho economy; while only one informant son was a full-time stockman, and seven other sons participated on a part-time basis.

26. In eighteen out of thirty-one cases where an informant ran away or pushed himself to school, expressed a desire to be sent, or was urged by his parents, the father's occupation was one of status and relative wealth: medicine man, silversmith, known wealthy herdsman or farmer, or tradesman or professional in the non-Navaho economy.

27. Fathers with high status occupations had sons whose level of education about the median did not vary significantly from sons whose fathers were farmers or herdsmen, or who worked largely in the non-Navaho society ($\chi^2 = 1.7; p \approx 0.10; 1 \text{ df}; \text{one-tailed test}$). These two groups did, however, vary significantly from the level of education attained by sons whose fathers worked both in the Navaho and non-Navaho society, or were absent from the family ($\chi^2 = 14.5$ when compared with the former higher status occupations; $p \leq 0.0005; 1 \text{ df}; \text{one-tailed test}$; and $\chi^2 = 5.4$ when compared with the latter group; $p \approx 0.01; 1 \text{ df}; \text{one-tailed test}$).
28. It is difficult to determine how much of a father's hypothesized conflict and probably lack of job valuation was due to his low level of formal education resulting in language difficulties and other problems when in contact with the alien society. At any rate it is proposed that this uneasiness and low valuation for self, job, and the non-Navaho society were passed on to the son resulting in low achievement motivation and little education.

29. Of thirty-two examples where the biological father was absent from the family or where the father worked in both societies, twenty-one families did not send their children to school and often hid them from school officials, or their children were sent to school only through the intervention of outsiders. In the latter few instances, the children usually only went to school for a year or two.

30. Excluded from this sample were single men who had recently left school. Only a few single men were included and they were at least thirty years old. Others were excluded because they could not be simply classified.

31. The role of the mother in Navaho personality development has not been given adequate treatment in this study. The nature of Navaho family life is one where women play a very important part. In fact, women are important in almost every sphere of Navaho life.

It should also be noted that where an informant's father had died or where he was not present in the family for some other reason two of the mothers found occupations in the non-Navaho economy. These were the only two cases where this information was known, and in each instance the son was above the sample median in n Achievement score and years of education. These were the only two men in this group of fifteen above the median in both characteristics. In each case the mother apparently was an appropriate occupational model, a role generally assumed by a father. Also, while conducting research in the city a number of families consisting of children and a working mother were discovered. It was not unusual for such a woman to have offspring in college.

32. For the group of men analyzed in Table 5.10 the median years of education was close to 2.5 years. There was no significant difference between the two categories of residence with respect to this median level of education ($\chi^2 = 0.25; 1 \text{ df}$).
33. The parents of only one Navaho informant participated exclusively in a Christian religion. These others participating in a Christian religion also took part in Navaho ceremonies.

34. There was a tendency for those who went to mission schools to stay slightly longer. This may have been due to a strong value for education by a parent since several informants stated they were put in a mission school because a father thought it was a better school. However, this reasoning was without a religious basis.

35. From the data it can be assumed that informants who had fathers with trades or professions that were historically non-Navaho, had a high proportion of grandfathers who participated in traditionally valued Navaho occupations.

36. Only about nine men did not return frequently to visit friends and relatives; at least twenty contributed a portion of their income to help relatives back on the Reservation; and only seven had not participated in Navaho ceremonies in the past five years.

37. These concepts are used in connection with personality formation by Hagen to postulate economic growth in many societies. The result according to Hagen is a deviant group who is responsible for economic change and growth. See, Everett E. Hagen, On the Theory of Social Change (Homewood, Ill.: The Dorsey Press, Inc., 1962), pp. 185-236.

38. All of these conclusions are also valid for the entrepreneurs of Chapter 8. But whether innovators of economic change and growth come out of, or are directly linked to, traditional occupations and families in a society, or whether they are in fact deviants in the society is an argument not likely to be solved here. However, this does not preclude a further discussion of this issue in the next chapter. Also, Papanek has pointed out that recent industrial entrepreneurial activity in Pakistan, causing rapid economic change, has been carried out largely by men from families who were traditionally or historically traders in that country; and Bellah has noted that in Japan the Samurai were the most achievement oriented group since the sixteenth century, and he suggests that this drive was latent in the Samurai due to legal constraint up until the Meiji Restoration in 1868, whereupon these restraints were abolished, the Samurai realized their entrepreneurial potential, and Japanese economic growth ensued. The
conflict with Hagen is primarily one related to the process whereby "creative" or "innovational" personalities are created (and whether these are deviants) and not who are or were the leaders of economic change and growth. See, Gustav Papanek, "The Development of Entrepreneurship," American Economic Review, LII:46-58, May, 1962, pp. 52-53; Robert N. Bellah, "Reflections on the Protestant Ethic Analogy in Asia," Journal of Social Issues, XIX:52-60, January, 1963, p. 54; and Hagen, op. cit., especially pp. 310-352.
1. It was not feasible to estimate the influence of prejudice on Navahos interviewed. Prejudice and discrimination existed among some of the non-Navaho employers interviewed. However, prejudice as such appeared to be less in comparison to that shown toward Negroes in this country. Prejudice usually was expressed as an inability to understand Navaho values, or customs. The fact that many jobs were with government agencies or the Navaho Tribe might indicate that such jobs were obtained because of less discrimination in these agencies. However, there were many complicating issues since these agencies pay higher wages for certain jobs (see Appendix III).

2. Only one man in the urban group was born in the city, and he was excluded from Table 6.1. The others came from the rural Navaho area, although several moved with parents to the city at ages of from ten to fifteen.

3. In each case their parent, or parents moved about frequently before settling in the city.

4. Four of these men received financial assistance in college under the G.I. Bill. It could be claimed that those who took advantage of this and other opportunities were the ones with high achievement motivation. For example, those who enlisted in a military service may have been such a group. Whether a man had enlisted or not was undetermined, but out of a very small group known to have enlisted all did have high n Achievement scores. However, there were others with low scores who because of their military service were assisted in obtaining an excellent education. Without these opportunities advancement for all of these men would have been inhibited.

5. This behavior of avoiding unnecessary risk is not inconsistent with personalities high in n Achievement. It would be valuable if this Navaho experience could be related to other similar migrating groups in other areas. Unfortunately little data on this subject are available. One study of some relevance includes information on migration patterns of 386 Negroes from a town in Mississippi (population about 2,000 in 1956) and the surrounding rural area (about half the migrants came from each area). Before World War II over half of the migrants had as their first destination small southern towns and rural areas, and the movement to large cities, such as Memphis, Chicago, and St. Louis, was
accomplished only on secondary migrations (over seventy percent moved to large cities on the second move). In this respect Negro and Navaho migrations were quite similar, although the two cases may not be quite comparable. Negroes might have been subject to the influence of "intervening opportunities" which were available and accessible within their particular locational matrix. What is noteworthy is that nearby urban opportunities were accessible to Navahos, but they were generally passed over until a more appropriate time (again locational attributes were not singly capable of explaining a particular behavior). The suggestion is that most Negroes also required this period of adaptation before the final movement to the alien urban environment could be achieved. It was possible to make the move from rural or small town Mississippi to urban America starting with World War II because a large number of kin had already been established in these large cities, thereby easing the moving process by diminishing various social and economic obstacles. See, Morton Rubin, "Migration Patterns of Negroes from a Rural Northeastern Mississippi Community", Social Forces, XXXIX:59-66, October, 1960; and Samuel A. Stouffer, "Intervening Opportunities: A Theory Relating Mobility and Distance", American Sociological Review, V:845-867, December, 1940.

6. Not all of the statements in the following section will adequately represent the type of society or family life in which a Navaho lives. But these comments are representative of Navaho social and economic life, and they are not outdated when considering Navahos interviewed in this study. Therefore, in presenting these remarks the present tense will be used.


8. Ibid., pp. 53, 58-59.


11. Ibid., pp. 119-121.

13. Ibid., p. 3.

14. Kluckhohn and Leighton, op. cit., p. 299. Values and value orientations are considered more fully in Chapter 7.

15. Ibid., pp. 309-311; and Leighton and Kluckhohn, op. cit., p. 111.

16. Navahos according to several authors, have also been noted for their "curiosity" and "imagination" among Indian groups. See, Ibid., pp. 103-104, 113-114.

17. The map on page 32 displays the expansion of the Reservation. However, Navahos were never constrained by Reservation boundaries.

18. Income from minerals has gone into the Navaho treasury and has paid for the machinery and programs of Tribal government. Direct benefits have been limited to the few jobs this wealth has created and welfare payments. However, more Tribal jobs are becoming available every year. It should also be pointed out that the Federal Government appropriated over $80 million in 1950 for a long-range development program on the Navaho and Hopi Reservations, and since then $20 million more has been authorized. About two-thirds of this money was for school construction and roads. Therefore, little of this money was directly for economically productive facilities, yet it was helpful in establishing a base for economic development. And roads ($40 million allocated between 1951 and 1962) have been another factor in unifying the people.

19. This brief historical account was written with the assistance of the following sources: Aberle, op. cit., pp. 3-4. L. Schuyler Fonaroff, "Conservation and Stock Reduction on the Navajo Tribal Range," Geographical Review, LIII:200-223, April, 1963, pp. 200-201, 203-207, 210-212, 216; Kluckhohn and Leighton, op. cit., pp. 34-35, 37-43, 73-76, 122-123, 158-161, 164; Ruth Underhill, Here Come the Navaho! (Lawrence, Kansas: Haskell Institute, 1953), pp. 38, 190, 246-247, 258-259. Robert W. Young (ed.), The Navajo Yearbook (Window Rock, Ariz.: Navajo Agency, 1961), pp. 5, 145-147, 150-151, 269, 332. David F. Aberle was also kind enough to discuss the research project with the author just before field work began. Some of his comments on Navaho history were valuable in writing this section.
20. The following generalization derives partly from the research on Navahos. However, its primary purpose is to present further conjectures concerning alternative models of economic and social change.


23. In discussing fixed or restricted societies no definition has been offered. The discussion has talked about polar types: rigid versus flexible societies. Obviously societies form a continuum between these poles, and any attempt at analysis should also consider which areas of activity or behavior in a society are adaptable to change.

24. Once again the keynote is self-valuation. Just as the Navaho innovators of change seemed to come largely from secure families where valuation of occupation and self were high, this valuation and security must be maintained at the societal level if an exchange of ideas and ways are to be stimulated.

25. It has already been pointed out in Chapter V that Negro farm owners provided a significantly larger proportion of kin migrants than randomly expected from a small area in Mississippi. Rubin, op. cit., pp. 63, 66. The conjecture is that these families were not as affected by discrimination and devaluation since they were able to practice traditional activities with their own valued resources, thereby continuing to produce offspring motivated to achieve in new economic areas when opportunities became available.

26. The discussion in this section has been confined primarily to contact between societies. However, the argument would be equally valid for groups within a society (such as the American Negro) and could be used to discuss economic and social change in such countries as Japan and England if sufficient facts were available.
27. The Cornell-Peru project in Vicos, Peru at this stage of development is evidently an example or model of this sort. Through the efforts of a small outside force, which accepted human dignity and equality as a necessary ingredient for the transfer of ideas, economic and social apathy among a group of Indian peasants was replaced by rising expectations, an increased valuation for education, and improved economic conditions. All of this was accomplished within a society noted for its semi-feudal restrictiveness and rigidity of behavior and social organization; where leadership for change was not in sight. Few would have forecast significant changes. Yet success was achieved within a decade not by deviants, but by people willing and able to take advantage of opportunities that became available within the society. And early in the project's history, the few men holding the more powerful and prestigious traditional positions in the peasant community were utilized to pioneer the transition. See William F. Whyte and Allan R. Holmberg, "From Paternalism to Democracy: The Cornell-Peru Project," *Human Organization*, XV:15-18, Fall, 1956; Allan R. Holmberg, "The Research and Development Approach to the Study of Change," *Human Organization*, XVII:12-16, Spring, 1958; and Allan R. Holmberg and Henry F. Dobyns, "The Process of Accelerating Community Change," *Human Organization*, XXI:107-109, Summer, 1962.

28. See Hagen, op. cit.

CHAPTER 7


2. The symbolic notation used in Table 7.1 and other portions of this chapter is defined in Appendix IV. Statistical procedures found in this chapter follow many of the methods presented in ibid, chapter iv.

3. Some conclusions drawn in this chapter might be questioned. For example, value choices appeared to be situational, that is, contact with a particular set of circumstances often apparently dictated value preferences. Frequently it could be argued though that prior values determined the type of situation, or that causation operated in the opposite direction. The problem stems partially from the fact that the data are static. However, in most instances the responses seem to fit a pattern compatible with a particular direction of causation. As an illustration, in this question (R1), the Individualistic response was more highly valued back on the Reservation where outside divergencies were fewer, and this preference was avoided by men in both areas who could not attend meetings. Also, the author claims some insight on the basis of field observation and comments of informants while answering the various questions, and offers some conclusions on this basis.

4. This generally meant an informant was living with a parent, or other older relatives where parents were absent.

5. Table 7.3A excludes eleven men since information was insufficient, or they could not be categorized in this manner.

6. All married men had been wedded within the past year or two, and none were found living with their parents or within their family's extended family organization. Only men age thirty or less were shown to reduce any bias associated with a tendency not to marry. It is contemplated that unmarried men would also marry and generally move away from their parents. Therefore, a prior preference for the Individualistic response does not seem to be present among these men. However, it is still possible that young men felt the Individualistic form of organization was preferable for married life but not single life.
7. Only six younger men visited friends and relatives infrequently or not at all. Of these, four men had lived in an urban area starting at an early age, and one had non-Na-vaho foster parents. Of three older men having little contact with Reservation friends and relatives, all at one time had frequent interchange with the Reservation. As they became older this contact declined. The remaining men often returned to see Reservation friends and relatives at least once a week. With respect to economic support, where information could be readily obtained it was determined that at least twenty men contributed some portion of their income to help relatives back on the Reservation. Others lived in larger than nuclear family households in the city and income was shared by the entire household.

8. Without presenting a table of paired solution relationships, the Lineal response was preferred over the Collateral alternative statistically more frequently (at the five percent level) in Turquoise Valley in comparison with either of the other two areas. On the other hand, the Collateral was preferred to the Individualistic and the Lineal to the Individualistic statistically more frequently only when the Turquoise Valley sample was compared with the combined Gallup and Neartown samples.

9. In this group the most variation in preference was noted. Lineality was the first-rank preference only for ten of the seventeen men.

10. Another reason for believing that preferences changed as a result of transitions in types of employment is found in another source. The Navaho Rimrock community surveyed in the F. Kluckhohn study was similar to Turquoise Valley. It was relatively isolated, and in 1951 when data were collected most men were living off the land. Public works was not then a part of their economy. Of the twelve men interviewed only one chose Lineality as their first-rank response, whereas nine elected the Collateral alternative, Kluckhohn, Strodtbeck, et al., op.cit., pp. 57, 433.

11. No large scale farming was practiced in any of the areas. The few farms that existed were only several acres in size, for partial subsistence.

12. Considering first-rank responses half of the fourteen men preferred the Collateral alternative. Of paired responses Collaterality was preferred to Individualism nine times, and to Lineality twelve times.
13. The scale with each analysis of variance was derived as follows. There were five questions and a score of 0.0 would show no responses, for example, of Individualism over Cellaterality, whereas, a score of 5.0 would indicate all responses favored this preference. The various scales are mean values for each group of men, and an equal preference for either alternative would be a score of 2.5. See Kluckhohn, Strodtbeck, et al., op. cit., pp. 135.


15. Preferences of younger urban men for Collateral solutions over Lineal alternatives accounts for the slightly different urban response pattern shown on the scale in Table 7.5.C. This may be because younger men have not encountered situations depicted in the questions, and consequently they fall back on what they visualize as a traditional response. In fact, many younger men (not including the five raised largely in the city) preferred the Collateral alternative to any other in the questions.


17. For Table 7.6.A, $X^2=3.2$ when comparing responses of Navaho men in Turquoise Valley with those in Gallup; and $X^2=2.9$ when Turquoise Valley preferences are compared with those of Neartown. Both statistics are significant at the five percent level for one-tailed tests (1 df) when testing the hypotheses outlined earlier in the chapter. When combining the Gallup and Neartown responses in Table 7.6.A and comparing them with Turquoise Valley, $X^2=4.4$.

18. In the city there were also five men who had not participated in Navaho religious ceremonies for at least five to ten years. Two other men had never taken part in such ceremonies. For this group the Harmony-with-Nature solution held no special meaning and this was a third-rank response for six of the seven men. Therefore, participation in Navaho ceremonies was a small factor in determining responses, although the degree of this participation or preferences for a Christian religion were not related to responses.
19. The importance of the isolation factor was also reflected by those men in Gallup who did not prefer a Christian religion. Among this group men having the lowest contact with the non-Navaho urban society favored with as their first-rank preference seven of ten times, whereas those with high contact and involvement in urban living (and the lowest contact with the Reservation) chose such a response only three of nine times. City dwellers who were least isolated from Navaho life and religion tended to have responses similar to men living outside the city.

20. Degree of non-Navaho contact is only a qualitative measure attempting to differentiate between relative amounts of urban involvement on the part of urban Navahos. Those categorized in the "Low" group were men who generally returned frequently to visit or live on the Reservation, lived in a more uninhabited area of the city sometimes with an extended group of relatives, and worked where there were relatively infrequent encounters with non-Navahos. As a result some in this group displayed difficulties with the English language even though a few were well educated and had lived in the city many years.

21. In Chapter 5 it was remarked that for many urban Navahos the Christian religion was favored only after migration. The conjecture is that as Christianity was substituted for the Navaho way and as contact decreased with the Reservation the noted change in value preferences occurred.

22. In the city the Subjugation-to-Nature solution was the first-rank preference of fifteen out of thirty men with four or more years of education. In Neartown and Turquoise Valley this first-rank solution was selected nineteen out of thirty-three times among those with four or more years of education, and only in seven instances out of thirty by men with less than four years schooling. Even when considering only men living outside the city this relationship between education and first-rank preference for the Subjugation-to-Nature alternative was statistically significant ($\chi^2=6.2; p<0.05; 1 \text{ df};\text{ two-tailed test}$).

23. Data compiled from Kluckhohn, Strodtbeck et. al., op. cit., p. 435.

24. Men placed in the "Low" category of non-Navaho contact generally did not leave the community of residence frequently. They usually had not been in an armed service, had little education, had not worked in an urban area or gone
into the non-Navaho world for employment. Of course, degree of contact with the non-Navaho world would be higher for the Neartown group in comparison with Turquoise Valley.

25. In comparing just urban and non-urban data for these paired responses the results are significant at the one percent level in each case. The urban population was significantly less Past time oriented.

26. It is always possible that this avoidance for the Past alternative occurs immediately after urban migration. To demonstrate this would require interviewing at the moment of migration. The stratification on the basis of zero to four years after migration was the best that could be accomplished with existing information. However, a philosophy of life -- a pessimistic or optimistic view -- is probably not continuously changing, but is rather a more permanent view of the existing world.

27. Table 7.12 shows that the datum barely lacks being significant at the five percent level of probability. However, if Neartown and Turquoise Valley responses were combined chi square would equal 4.4, (p<0.05) indicating that preferences of Gallup men in this problem area were significantly different from that of the non-urban group.

28. It is possible that this orientation of urban residents toward Future in comparison with Past time for this question was simply a by-product of education, with which the urban population was well endowed. There was not sufficient datum to reach a firm conclusion, but the assumption is that the stated value preference reflected a state of mind crucial for urban migration and that education represented a force for bringing about this state of mind. Another possibility is that those who went on to higher grades in school were oriented toward planning ahead. No conclusive though evidence is available.

29. This question was taken from William Caudill and Harry A. Scarr, "Japanese Value Orientations and Culture Change, Ethnology, I: 53-91, January, 1962, pp. 61-62.


32. This should not be confused with n Achievement. Stories concerned with working hard and keeping busy would not be scored positively. This type of endeavor on commonplace tasks or in solving routine problems would not be considered achievement imagery (see Appendix II). Such a person in stories or action must be involved with an achievement goal and not just keeping busy at work.

33. This is discussed in ibid., pp. 91, 334.

34. The preference for the "Doing" solution in Gallup was statistically significant when compared with Neartown ($X^2=9.8; p<0.005; 1$ df, one-tailed test). However, there was no statistically significant difference between Neartown and Turquoise Valley with respect to their solutions to item Al ($X^2=0.6$).

35. Frequently it has been stated in this chapter that results reflect the adaptive ability of Navaho values since they are frequently situation-oriented, and that this is a historic trait of Navahos which is documented by this research. This conclusion may be sound, but any observer of people in relatively rapid transition, such as the Navahos, will be uneasy with this reasoning. It could be argued that responses were situational because Navahos were in rapid transition. Traditional Navahos values were no longer held generally throughout the society -- consensus was absent -- and American values had not been totally adopted. Therefore, without these guides Navahos may have adapted to a particular situation rather than being able to fall back on a continuing set of secure internalized value orientations. To say that the truth probably lies somewhere between these two lines of reasoning is an unhappy escape route.

36. It should be noted that F. Kluckhohn defines Lineality as the persistence of a corporate group through time (Kluckhohn, Strodtbeck, et. al., op. cit., p. 19). Unfortunately the questions are not designed adequately to obtain responses in terms of this definition since solutions are concerned generally with relying on the "oldest able person", or a "big boss" to solve a problem.

37. It has already been pointed out though that in the relational orientation area urban men who had lived in the city from an early age gave responses closely resembling American orientations. In this one value orientation area the transition to American values was almost complete, but was only possible through urban contact commencing early in life. This pattern was not repeated in other value orientation areas.
1. This information was estimated from a list of businesses on the Reservation provided by the Bureau of Indian Affairs in Window Rock, Arizona. Approximately a half dozen of these were entirely owned by women.

2. In the year 1962-63 profits were about $5000. No other Navaho stockman interviewed even approached such profits. Ranching was this man's full-time occupation in years when employment was difficult to obtain.

3. It is perhaps questionable whether such a man is really an entrepreneur. Certainly he is extremely talented and skilled at using modern art forms with Indian symbols and subjects. But, in addition to this, he has had to market this art and establish a clientele of buyers.

4. Information obtained November, 1963 from the Credit Department, Navajo Tribe, Window Rock, Arizona.


7. Using any of the non-parametric methods presented elsewhere in this study would not have done justice to the very high n Achievement scores and years of education found among some of these businessmen. The best procedure for such a situation was the "Student's t distribution" for testing the difference between two means. This test was used in Table 8.1 and has the advantage of being suited for use on small samples, as is the case here. Its one disadvantage is that it assumes equality of variances in the larger population of these samples. See, Paul G. Hoel, Introduction to Mathematical Statistics (2nd ed.; New York: John Wiley and Sons, Inc., 1955), p. 227.

If the one questionable entrepreneur, the artist, is dropped from the sample of businessmen and added to the urban group, then, for n Achievement scores, 
\[ t = 1.67 \] 
\[ (p < 0.05) \], and for education, 
\[ t = 0.83 \] 
\[ (p > 0.20) \]
8. The skills of men in the city though were at least partly learned in school. On his own initiative the tradesman had gone on to a trade school after completing high school; the artist had many art lessons during school and afterwards, although he worked mostly on his own; and although the stockman initially learned about raising stock at home he took some courses on the subject in high school. But none of the men interviewed had received any formal instruction on business methods and techniques prior to establishing their enterprise.

9. This desire for an individualistic approach to solving problems could conflict with extended family obligations, especially traditional obligations regarding financial support and perhaps family expectations to employ relatives in the firm. These obligations and expectations could pose difficulties in establishing a viable firm. None-the-less it has been shown that the family in many instances was an asset in developing an enterprise and this individualistic response may reflect a desire to be insulated from certain family obligations and expectations. Similar conflicts among entrepreneurs have been reported in other societies, and in these the extended family has also been an important factor in developing an enterprise. For example, see Theodore Geiger and Winifred Armstrong, The Development of African Private Enterprise (Washington, D.C.: National Planning Association, 1964), pp. 40, 42.

10. For the T3 item (Philosophy of Life) the Future response was the first-rank preference eight out of nine times. For the question concerning planning in allocating water the Future response was preferred over either of the other alternatives seven out of nine times.


12. These figures are quoted in Harland Bartholomew and Associates, Growth of the Community: Gallup, New Mexico, A Report Prepared by Harland Bartholomew and Associates, City Planners (St. Louis: April, 1959), p. 19. In the county, Gallup had only about one-third of the total population, but almost ninety percent of the county's retail sales.
13. This is not to suggest planning and thinking has not been occurring in such Government agencies as the Bureau of Indian Affairs (BIA). They have been responsible for construction of many new highways and schools; and they have been considering the development of shopping centers on the Reservation and other enterprises. However, BIA and the Tribe up to the time of this research had not attempted to exploit Navaho entrepreneurial skills. Out of a loan fund of about $1.75 million of Tribal and Government money only about $50 to $75 thousand was outstanding in the form of individual Navaho business loans in November, 1963. Information from Branch of Credit, BIA, Window Rock, Arizona.


15. Information from the Bureau of Indian Affairs, New Mexico. Funds on deposit in the Treasury can be used only after approval by the Tribe and the Government.

16. The Tribe could also entice outside investment by providing such incentives as: no tax property leases; low interest loans; or industrial facilities, including buildings, on a rental basis. Similar incentives could be provided Navaho entrepreneurs.
CHAPTER 9

APPENDIX II

1. The scoring technique shown here is an extremely abridged version quoted directly from David C. McClelland, John W. Atkinson, et al., "A Scoring Manual for the Achievement Motive," in J. W. Atkinson (ed.), Motives in Fantasy, Action, and Society (Princeton, N.J.: D. Van Nostrand Co., Inc., 1958), pp. 179-204, which was an abridged form of the original manual by the same authors in their book, The Achievement Motive (New York; Appleton-Century-Crofts, Inc., 1953), chapter iv. Numerous examples of how the various categories are scored have been excluded from this Appendix. What is shown here are some of the basic concepts used for scoring the achievement motive, arrived at through theoretical and applied research. The last paragraph in this Appendix illustrates how each achievement score was computed. This paragraph is provided by the editor, Atkinson, in the scoring manual cited above, appearing as a footnote on page 202. Everything else in the text of this Appendix is quoted directly from the source noted.

2. Becoming a successful sheep raiser, or becoming a success in other Navaho occupations requiring involvement in the attainment of long-term achievement goals were likewise defined as achievement imagery.
APPENDIX III

1. Income data was taken for the recent one year period: July 1, 1962 to July 1, 1963 for those men in and near Gallup, and September 1, 1962 to September 1, 1963 for the Turquoise Valley sample. Any error on a comparative basis was negligible, and since research in Turquoise Valley was carried out late in 1963 the men had less trouble remembering their income for more recent dates.

   The reliability of income figures is very good, with few exceptions. In the Gallup sample twenty-seven percent of the income was spot-checked and verified with employers. Another forty-six percent was considered very reliable because it was income from hourly wages, or monthly salaries, accurately known by each informant. This left only nineteen percent open to some question, including some unemployment compensation and other income not contracted for on an hourly or monthly basis. Outside the city about forty-three percent of the income was verified in Neartown, and another ten percent was considered very reliable. Back in Turquoise Valley fifty-seven percent of the income was confirmed with employers. Outside the city the remaining income might be accurate, however, it could not be checked. This included income from railroad employment (twenty-six percent of the total in one area and twenty-one percent in the other). Written permission from an informant was required to check this datum. Also, State Employment Office records could not be checked by law to obtain information concerning unemployment compensation and other income data. In addition, income from personal livestock and crop raising must be treated only as an estimate, although some figures on wool and lambs sold to trading posts were substantiated. Overall, with noted exceptions, the income data for the one year period seems quite accurate.


3. Of those interviewed one man in the city with a relatively large cattle herd received about as much income during the year as all the men outside the city together earned from farming and stockraising.

4. Income from farming and stock-raising included an estimate of both sold and consumed products during the year. The income shown was only an approximation of the proportion earned by the man interviewed. Many people usually participated in the production process, and where applicable the share of each informant in the process was estimated. No estimate was made of capital invested in a herd.
5. The earliest Indian preference law was 4 Statutes 737 dating back to June 31 [sic], 1834. More recent laws in effect are 48 Statutes 984 of June 18, 1934 and Executive Order 80-43, dated January 31, 1939. Information from conversation with Office of Personnel, Bureau of Indian Affairs, Gallup, New Mexico.

6. Twelve of twenty-one such men; and one other man received his professional job through the Tribe.

7. This totaled eight men, and three of these had switched their job from the city during the six month period prior to being interviewed.

8. Many of these men had lived and worked in the city for many years--up to twenty-eight. Urban living was not as quickly cast aside though. Continuing to live in the city was frequently rationalized in terms of urban conveniences, such as shopping or schools.
APPENDIX IV

1. This Appendix is taken for the most part directly from the statistical methods of analysis shown in Florence R. Kluckhohn, Fred L. Strodtbeck, et al., Variations in Value Orientations (Evanston, Ill.: Row, Peterson and Company, 1951), chapter iv.

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