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MAPPING THE VERNACULAR SOUTHWEST

by

James Daniel Lowry, Jr.

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A Dissertation Submitted to the Faculty of the
DEPARTMENT OF GEOGRAPHY AND REGIONAL DEVELOPMENT
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
WITH A MAJOR IN GEOGRAPHY
In the Graduate College
THE UNIVERSITY OF ARIZONA

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GRADUATE COLLEGE

As members of the Final Examination Committee, we certify that we have read the dissertation prepared by James Daniel Lowry, Jr., entitled Mapping the Vernacular Southwest and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

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Signed: James D. Lowry, Jr.
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DEDICATION

I dedicate this to the memory of my father, whom I love and miss dearly, and in honor of my mother and my wife Lori for all their love, support, encouragement, and help. I also dedicate this to my sister Kathy, my niece Danielle, and my grandmother Ruth. Lastly I dedicate this to Ashley, Angie, Danny, and Ross, and especially to Abby for always being there with me.
# TABLE OF CONTENTS

LIST OF ILLUSTRATIONS................................................. 8

LIST OF TABLES........................................................... 9

ABSTRACT........................................................................ 10

I. REGIONS...................................................................... 12
   The Southwest as a Vernacular Region......................... 15
   Other Geographers' Definitions of the Southwest........... 18
   Non-Geographers' Definitions of the Southwest............ 21
   "New" Regionalizations.............................................. 28
   Other "Definitions".................................................. 28
   Common Ground....................................................... 31
   Research Questions.................................................. 35

II. DEFINING THE SOUTHWEST: RESEARCH METHODS............. 38
   Applying the "Phone Book" Southwest......................... 48
   The Survey.................................................................. 58
   Demographics of the Respondents.............................. 59
   The Map...................................................................... 61
   The Questionnaire.................................................... 62

III. DEFINING THE SOUTHWEST: RESULTS FROM THE MAP
    EXERCISE................................................................ 64
    Gender and Mapping the Southwest............................ 71
    Location and Mapping the Southwest.......................... 71
    Race/Ethnicity and Mapping the Southwest................... 78
    Analyzing the Maps.................................................. 86
       1. Gender............................................................ 88
       2. Location........................................................ 90
       3. Race/Ethnicity.................................................. 90
    The Map of the Vernacular Southwest......................... 93

IV. DEFINING THE SOUTHWEST: RESULTS FROM THE
    QUESTIONNAIRE....................................................... 95
    Question 1: Characteristics...................................... 95
    Question 1b: The Most Important Characteristics.......... 97
       Mapping these Characteristics............................... 104
    Question 2: Sources of Information............................ 119
    Question 4: Southwestern Cities and Other
       Places................................................................ 123
    Question 5: Symbols of the Southwest........................ 128
    "Postcard" Question................................................. 131
<table>
<thead>
<tr>
<th>TABLE OF CONTENTS - Continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. THE VERNACULAR SOUTHWEST .................. 137</td>
</tr>
<tr>
<td>Research Caveats and Shortcomings .......... 149</td>
</tr>
<tr>
<td>Envoi ...................................... 154</td>
</tr>
<tr>
<td>APPENDIX A: INSTRUCTIONS, MAP, AND QUESTIONNAIRE .... 157</td>
</tr>
<tr>
<td>APPENDIX B: SITES, COLLABORATORS, AND NUMBERS .......... 162</td>
</tr>
<tr>
<td>APPENDIX C: THE SOUTHWEST AS SEEN FROM THE THIRTY-FIVE SITES AND FROM THE TEN MULTIPLE-SITE STATES. 166</td>
</tr>
<tr>
<td>REFERENCES ...................................... 212</td>
</tr>
</tbody>
</table>
LIST OF ILLUSTRATIONS

Figure 1.1, The Vernacular Southwest According to Hale and Zelinsky ........................................... 16
Figure 2.1, The "Phone Book" Southwest ........................................... 47
Figure 2.2, Survey Sites .............................................................. 49
Figure 3.1, The Southwest (Composite) ........................................... 65
Figure 3.2, The Southwest, 2 (Composite) ........................................... 67
Figure 3.3, The Southwest As Seen By Males ........................................... 72
Figure 3.4, The Southwest As Seen By Females ........................................... 73
Figure 3.5, The Southwest As Seen By The Core ........................................... 75
Figure 3.6, The Southwest As Seen By The Domain And Sphere ........................................... 76
Figure 3.7, The Southwest As Seen By The Non-Southwest ........................................... 77
Figure 3.8, The Southwest As Seen By African Americans ........................................... 80
Figure 3.9, The Southwest As Seen By Anglo Americans ........................................... 81
Figure 3.10, The Southwest As Seen By Asian Americans ........................................... 82
Figure 3.11, The Southwest As Seen By Hispanics ........................................... 83
Figure 3.12, The Southwest As Seen By Native Americans ........................................... 84
Figure 4.1, Mean Annual High Temperature Frequency ........................................... 105
Figure 4.2, Average Relative Humidity, Local Noon, July ........................................... 106
Figure 4.3, Deserts of the United States ........................................... 108
Figure 4.4, Hispanic and Native American Population, 1994 ........................................... 109
Figure 4.5, Mean Annual Total Duration of Sunshine ........................................... 110
Figure 4.6, Lowest Population Density Counties and Parishes, 1994 ........................................... 111
Figure 4.7, Rodeos (and Cowboys) in the United States ........................................... 112
Figure 4.8, The Overlap of Southwestern Characteristics ........................................... 113
Figure 4.9, Southwestern Cities and Other Places ........................................... 127
Figure 4.10, Location of Saguaro Cacti ........................................... 132
LIST OF TABLES

Table 1.1, Comparison of Selected Southwests ............32
Table 2.1, Cities and SW entries per 10,000 population................................. 42
Table 2.2, Gender, Location, and Race/Ethnic Breakdown of Respondents.........................60
Table 3.1, Gender and Maps.................................. 89
Table 3.2, Location and Maps.................................. 91
Table 3.3, Race/Ethnicity and Maps.............................. 92
Table 4.1, Characteristics of the Southwest.....................96
Table 4.2, Southwestern Characteristics and Gender............98
Table 4.3, Southwestern Characteristics and Location...........99
Table 4.4, Southwestern Characteristics and Race/Ethnicity.................................100
Table 4.5, The Most Important Characteristics of the Southwest..................................102
Table 4.6, Important Southwestern Characteristics and Gender..................................102
Table 4.7, Important Southwestern Characteristics and Location..................................102
Table 4.8, Important Southwestern Characteristics and Race/Ethnicity..........................103
Table 4.9, Sources of Information................................120
Table 4.10, Sources of Information and Gender...................120
Table 4.11, Sources of Information and Location..................121
Table 4.12, Sources of Information and Race/Ethnicity...........122
Table 4.13, Southwestern Cities and Other Places..................124
Table 4.14, Southwestern Cities and Other Places and Gender...................................124
Table 4.15, Southwestern Cities and Other Places and Location................................124
Table 4.16, Southwestern Cities and Other Places and Race/Ethnicity............................125
Table 4.17, Symbols of the Southwest.............................129
Table 4.18, Symbols of the Southwest and Gender................129
Table 4.19, Symbols of the Southwest and Location.............129
Table 4.20, Symbols of the Southwest and Race/Ethnicity.130
ABSTRACT

"Southwest" is a well known, and often used, term in the American language. Geographers, however, have paid little attention to the region. Among the major books and articles dealing exclusively with the definition of the Southwest as a region, of which there are few, only one was produced by a geographer. Also, among the research conducted on vernacular regions (as defined by the "common" people), there are only two which deal with the Southwest. Neither of these, however, focus exclusively on the region. Also, both deal only with mapping the region and not with characteristics or traits that set it off from other regions.

In an attempt to alleviate this oversight, a survey was conducted on the Southwest as a vernacular region. Over two thousand respondents' results come from a total of thirty-five sites in sixteen states and one Canadian province. They were asked to indicate on an outline map where they believe the Southwest was located and to fill out a questionnaire concerning characteristics of the Southwest, various sources of information on the region, cities or other places which best represent the region, and symbols of the region.

The Southwest, as defined here, is strongly anchored in Arizona and New Mexico. Other Southwestern areas, in order
of importance, are West Texas (specifically the El Paso area), southern California, southern Nevada, southern Utah, and southern Colorado. The remainders of these seven states, plus Oklahoma, constitute this Southwest, which is seen primarily as a hot, dry desert. Phoenix and Santa Fe are seen as the best representations of the region, and the most prominent symbol of the region are cacti (specifically the saguaro).

The results were tabulated by gender, by location, and by race/ethnicity in an attempt to determine the relative importance of these factors in one's view of the region. Tests of significant differences indicated that gender is far less important than either location or race/ethnicity in the formation of one's view of the Southwest. At this point it is not possible to determine which of the two other factors is more important.
In 1971 Hale found that geographers' definitions of regions, such as the Southwest, often differ greatly from those of the population at large. Perhaps part of this difference is based in how each group defines a region. A "vernacular" region is "perceived and defined by its inhabitants, usually with a popularly given or accepted nickname" (Fellmann, Getis, & Getis 1992, 513). The same authors define a "perceptual" region as "a region perceived to exist by its inhabitants or the general populace. Also known as a vernacular region or popular region, it has reality as an element of popular culture or folk culture represented in the mental maps of average people" (ibid., 509). While it is true that a perceptual region is a type of vernacular region, all vernacular regions are not perceptual regions. As defined here, the vernacular region is the view of the common person (i.e., their perception of the region), and not a region defined by a professional geographer.

The region according to the academic geographer, on the other hand, is "any earth area with distinctive and unifying physical or cultural characteristics that set it off and make it substantially different from surrounding areas. A region may be defined on the basis of its homogeneity or its functional integration as a single organizational unit."
Regions and their boundaries are devices of areal generalization, intellectual concepts rather than visible landscape entities" (Fellmann, Getis, & Getis 1992, 510).

Perhaps the best statement concerning the two different ways of defining regions comes from Jordan's treatment of perceptual regions. He states "perceptual or vernacular regions are those perceived to exist by their inhabitants and other members of the population at large. They exist as part of popular or folk culture. Rather than being the intellectual creation of the professional geographer, the vernacular region is the product of spatial perception of average people. Rather than being based on carefully chosen, quantifiable criteria, such regions are composites of the mental maps of the population" (1978, 293). Thus the difference in definitions, but of what importance is this? Should vernacular regions be of importance to geographers?

The importance of the examination of vernacular regions by geographers has been noted by Zelinsky. In his examination of vernacular regions of North America he poses the question "How seriously should the serious geographer take the vernacular, or popular, regions of his country?" (1980, 1). His answer is "that identifying and understanding our vernacular regions is a justifiable, even necessary, pursuit if we wish to apprehend the major social
and geographical realities of late Twentieth-Century America" (ibid., 2).

Jordan has also commented on the importance of perceptual regions. He states: "As geographers, we ought to know more about perceptual regions than we do, at various scales and in different parts of the world. Spatial patterns, behavior, organization, and flows are among our traditional concerns, and we should be able to understand these better if we know how populations perceive regions" (1978, 307).

One region of the United States which has received less attention from geographers than have others is the Southwest. The only two major attempts to define the spatial extent of the Southwest as a vernacular region were parts of larger national scale studies. Most of the other definitions of the region offered by geographers are also parts of larger scale works. Only one major geographic work exists which focuses on the Southwest.

In 1971 Meinig stated "The Southwest is a distinctive place to the American mind but a somewhat blurred place on American maps, which is to say that everyone knows there is a Southwest but there is little agreement as to just where it is" (Meinig 1971, 3). Just how true is Meinig's assertion about the Southwest today? While there is little disagreement about its existence, is there truly so little
agreement as to its location? And if so, why? To answer this we must examine how people come to know and view the Southwest and regions in general. This dissertation begins with a review of prior offerings on the region, then moves on to offer a new definition based on survey research about the Southwest as a vernacular region.

The Southwest as a Vernacular Region

The one region where there was perfect agreement (between "common" people and geographers) about spatial definition in Hale's (1971) research was the Southwest. In both cases the Southwest was defined as the entireties of Arizona, New Mexico, Texas, and Oklahoma (Figure 1.1). In fact, she remarked that "with the strong vernacular sense of regional consciousness in this area, it is gratifying to find geographers in contact with the mainstream society" (Hale 1971, 120). In Arizona and New Mexico the "common" people exhibited the strongest regional affiliation, along with those in Washington and Oregon in the Pacific Northwest (this partly contradicts Meinig's previous statement concerning little agreement as to the location of the Southwest). In Hale's study the "common" person was represented by county agricultural extension agents, weekly newspaper editors, and postmasters; three occupations represented in almost every county and parish throughout the
Figure 1.1
The Vernacular Southwest According to Hale and Zelinsky

United States. The professional geographers were represented by professors of geography familiar with each of the forty-eight contiguous states (Hale 1971, 68-70).

The other vernacular offering of the Southwest is Zelinsky's (1980). In this study, he mapped the various vernacular regions of all of North America. This was accomplished by examining the telephone directories of two hundred seventy-six metropolitan areas in the United States and Canada for locational or regional terms in the names of businesses and organizations. His Southwestern region does not include entire states as does Hale's. "Southwest," or some variation thereof, is common in southern California, in the Las Vegas area, in Arizona, New Mexico, Texas, and Oklahoma, and parts of Colorado, Kansas, Missouri, Arkansas, and Louisiana (Figure 1.1). The term, however, is the primary term only in southeastern Arizona, the southern three-quarters of New Mexico, almost all of Texas except the northern half of the Panhandle, and the southern half of Oklahoma. Thus this vernacular region based on the use of the term "Southwest(ern)" in the names of businesses and organizations is somewhat different from the vernacular Southwest defined in Hale's study, and is possibly more accurate because of the differing natures of the two. In Hale's, each state is forced into a single region in its
entirety, while in Zelinsky's a state may fall partly within several regions.

Other Geographers' Definitions of the Southwest

How do professional geographers concerned with regionalization define the Southwest? Major definitions of the Southwest which were meant for wide-spread educational distribution are examined as they are the definitions of the region most likely to have influence on students', and others', definitions of the Southwest as a region.

The single offering focusing only on the Southwest by a geographer is Meinig's *Southwest: Three Peoples in Geographical Change, 1600-1970* (1971). In this book, Meinig defines the Southwest primarily as Arizona and New Mexico. Parts of contiguous states are included (e.g., southern Colorado and the El Paso area), and parts of Arizona and New Mexico are excluded (i.e., the Arizona Strip (the land north of the Grand Canyon and the Colorado River, which also is part of Arizona not included by Zelinsky) and the Lower Pecos River Valley in southeastern New Mexico) (Meinig offers no map to reproduce here other than a general Southwestern area map which has no discernible boundaries because of his assertion of little agreement as to the region's location). The primary determinant of "Southwesternness" is, according to Meinig, a unique
racial/ethnic mix, although the deserts, mountains, and water issues also play a significant role.

The unique Southwestern racial/ethnic mix exists in those areas where significant numbers of Native Americans, Hispanics, and Anglo Americans live in conjunction. Thus the Arizona Strip is excluded because it is seen as more of a part of Mormon Utah, and southeastern New Mexico is excluded because it is populated by Texan (Anglo) ranchers and oil men. Southern Colorado and the El Paso area are included because they display the multicultural mix.

College textbooks on North America are also a valuable source of information. In *North America: A Geography of the United States and Canada*, Paterson (1989), like Meinig, states that he does not believe that the region has clearly defined borders, but that it reaches up to the southern Rockies east and west of the Rio Grande down to Mexico. He does not say how far the region extends to the east, but to the west it spreads up over the Mogollon Rim and across to the Pacific. This definition sounds very similar to Meinig's: most of Arizona and New Mexico, the El Paso area, and southern Colorado. The major difference is that he stretches it over to the Pacific. To Paterson, the primary determinants are the general isolation and the Native American and Hispanic cultures.
Birdsall and Florin's *Regional Landscapes of the United States and Canada* (1992) includes a chapter on the Southwest border area. This area includes most of Arizona and New Mexico, plus southern California and the border area of Texas. The focus of the chapter, and the subheading, is "Tricultural" development. Thus we seem to have something very similar to the Southwest as defined by many, yet not quite the Southwest as defined by others here. The term "Southwest" does not necessarily imply the border and its immediate environs (although it does to some), thus if the area under question is the Border Southwest instead of the Southwest we will get the entirety of the United States border with Mexico even though many people may not consider the eastern or western extremes as Southwest.

A final textbook "definition" is that of White, Foscue, and McKnight in *Regional Geography of Anglo-America* (1985). In this case there is no Southwest given as one of Anglo-America's major regions, though the term is interspersed in the chapter on the Intermontanae West. This Intermontanae West includes all of Arizona, southeastern California, western New Mexico, the El Paso area of Texas, most of Utah, almost all of Nevada (except the Reno area), southern Idaho, the eastern half of Oregon, and the southeastern third of Washington. Many of the characteristics attributed to this very large region are applicable to the Southwest, such as
plateaus, basin and range, aridity, water issues, and the three cultures living in the area, but the region is obviously not offered as a surrogate for the Southwest. To these particular geographers, the Southwest is evidently a non-entity.

Interesting among professional geographers' definitions of the region is the Association of American Geographers Southwestern Division. This "definition" proffered by the single largest, and most powerful, group of professional (and student) geographers in the world includes the states of Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. The interesting point is the omission of Arizona, which is in the Association's Pacific Coast Division. The Association, although its purpose is not merely to define regions, but to define efficient regional associations, obviously means something different when it says "Southwestern" than do many others.

Non-Geographers' Definitions of the Southwest

A major treatment of the region by a non-geographer is Lavender's *The Southwest* (1980). As this is from a historical perspective, the spatial definition is very similar to Meinig's (and, like Meinig, offers a Southwestern area map with no boundaries). Again the focus is on Arizona and New Mexico, along with contiguous parts of Texas,
Colorado, Utah, Nevada, and California. Lavender's focus seems to be much the same as Meinig's and others': the racial mix and history are the most important factors. The landscape does not escape attention, but is of secondary importance only.

A more recent treatment of the Southwest is Byrkit's "Land, Sky, and People: The Southwest Defined" (1992). He is primarily concerned with offering a spatial definition of the Southwest by examining the location of some of the more important, to him, phenomena that define the Southwest as a place.

Byrkit, echoing Meinig, begins by discussing that although everybody uses the term "Southwest," there is very little agreement on its location on a map. In fact he indicates that there is less agreement on the Southwest than on the locations of similar scale/type regions such as the South or New England. This he offers as "evidence" that the Southwest is disappearing as a region into "mainstream" American culture (an argument often made in reference to all United States vernacular regions). Although this contention is supported by Meinig, it is a direct contradiction of Hale's results obtained from direct questioning and not merely an assertion. Nevertheless, this is simply his justification for defining the region, thus his definition's
validity should not suffer because of possible erroneous conjectural justification.

To define the region he adapts what he calls the bioregionalist approach, thus the title (he fairly adequately deals with the determinism inherent in such an approach). He first defines the region by focusing on the southwestern quadrant of the United States (including the portion of Mexico which is included "accidentally"). Using this as a starting point, he then defines the physiographic Southwest (high plateaus, canyons, deserts, basins and ranges, etc.). This is followed by a Southwest defined by the Colorado and Rio Grande River drainage systems. Finally, in what he terms the bioregionalist perspective, he briefly examines a geologic and climatic Southwest.

Also included, a la Meinig, are reviews of Native American, Spanish and Mexican, and Anglo-European histories in this bioregionalist-Southwest, along with a review of "Southwestern" literature. The Southwest, then, according to Byrkit's bioregionalist approach is where all of these areas overlap (of which he contends there is a strong correlation). His Southwest is the area of the United States (and Mexico) south of the 39th parallel and north of the 29th parallel between 104 and 117 degrees West Longitude. This is similar (at least the part in the United States) to the Southwest other academicians concerned with
the Southwest have found: Arizona and New Mexico (except the eastern extreme) and parts of adjacent states.

In 1975 Gastil, like Meinig and others, defined the (Interior) Southwest primarily on the basis of the unique ethnic and cultural mix of the area. Thus his region's spatial dimensions include most of Arizona and New Mexico (except the Arizona Strip and southeastern New Mexico) and parts of contiguous states (like southern Colorado and the El Paso area). Additionally, he excludes the Phoenix-Tucson metropolitan corridor as a non-conforming metropolitan area.

Hollon (1961) defines the region as that area of the United States where the South and West overlap, or the lower left-hand quarter of the nation. This is the region below the 40th parallel and west of the 98th meridian, or most of the present states of Texas, Oklahoma, Kansas, Colorado, New Mexico, Utah, Arizona, Nevada, and California" (3-4). This definition is similar to, but larger than, Byrkit's.

Dobie states "The principal areas of the Southwest are ... Arizona, New Mexico, most of Texas, (and) some of Oklahoma" (1952, 14). Fergusson (1940) defines the Southwest by the presence of Mexicans, Indians, aridity, mountains, and high plains, all of which she says are found in southern Colorado and in Texas to the west of a line drawn from San Antonio to Fort Worth, but principally in the core of the region which is Arizona and New Mexico. In an
examination of regions in the southern portion of the United States, Odum posited that it was "neither possible nor desirable to present a single authentic picture of "the South"... because of the dynamics of the emerging Southwestern Region, comprising Texas, Oklahoma, New Mexico, and Arizona" (1936, 5). He also states rather emphatically (his regional definitions are based on physical, economic, and social measures) that Missouri is not in the Southwest. Richardson and Rister (1934) define the region as that part of the United States west of the ninety-eighth meridian and south of the northern boundaries of the tier of states from Kansas to California. Again the emphasis is on the multicultural history of the area, along with the frontier status and the subsequent development of the region.

One of the more common sources of information about a region is the travel guide. Several guides, most of which were randomly chosen (with the exception of the "major" guides) out of hundreds available, on the American Southwest were examined in reference to their definition of the region. For those that issue annual editions only the most recent is included here (i.e., Fodor's and Berlitz). The 1995 Fodor's guide to the United States (Haberfeld 1994) includes the states of Arizona, Nevada, New Mexico, Texas, and Utah in the Southwest. The 1993 Berlitz guide to the Southwest defines the region as Arizona, New Mexico, the El
Paso and extreme western areas of Texas, the Las Vegas area, and the southern halves of Utah and Colorado. Among the many others available, a 1992 guide (Harris, et al.) includes Arizona, New Mexico, southern Utah, and southwest Colorado, and a 1985 guide (Bongartz) includes New Mexico, Arizona, and Colorado. A 1982 guide to inns of the Southwest (Gardner, et al.) includes Arizona, New Mexico, and Texas, as does a 1992 guide to bed and breakfast inns of the Southwest (Poshek). A 1993 guide (Wright) to temporary lodging in the region includes the states of Arizona, New Mexico, Texas, and Oklahoma. Finally, the American Automobile Association, in its guide to recreational vehicle and tent sites in the Southwest, defines the region as Arizona, New Mexico, Utah, and Colorado (American Automobile Association 1992).

The National Geographic Society has a picture atlas on the geography of the United States in which the Southwest is defined as the states of Oklahoma, Texas, New Mexico, and Arizona (Sedeen 1991). The series is aimed primarily at the elementary grades, thus in areas where it is utilized it may be a factor in people's spatial definition of the region.

As with other regions, the Southwest has spawned a number of picture books dedicated to capturing the region on film. The single biggest problem with such books, for research such as this, is that they rarely include much text
and, when they do, they almost never give their definition, either in area or of characteristics of the region. There is, however, one Southwest picture book which breaks with tradition by not only offering a textual account of the pictures and region, but also a definition of the region:

The Southwest has no distinct boundaries. It is a land brought together by similarities in geography and by the cultures of its inhabitants, both prehistoric and historic. Most scholars agree that the region includes the states of New Mexico and Arizona, the southern portions of Utah and Colorado, southern and western Texas, and the northern reaches of Mexico.

The western boundary of the Southwest is normally defined by the Colorado River, although lands to the west of the river, in California and southern Nevada, share much in common with those of the western desert areas of Arizona. In the east, the Southwest merges with the Plains, once again defying a sharp breaking point, but generally including lands to the west and south of the Colorado Rocky Mountains. The plains of the Llano Estacado in eastern New Mexico and western Texas lend no help in clearly defining an eastern boundary. To the south, the International Boundary between the United States and Mexico forms an artificial line of demarcation as lands to both sides of the border, either in Arizona, New Mexico and Texas, or in Mexico, show no physiographic differences.

The Southwest may be culturally defined as the region to the north of the Mesoamerican civilizations, to the south of the Great Basin and the Rocky Mountains, east of the Pacific Coastal cultures and west of the Plains cultures. These neighboring cultural areas share similar customs, and have long enjoyed trade relations with the Southwestern cultures.

The people of the Southwest share a common history; prehistoric cultures shared similar traits and interacted through trade. Everyone in the region was affected by the Spanish exploration and colonization, Mexican American War, and the Indian uprisings of the 1800's (Walker 1993, 6).
"New" Regionalizations

In The Nine Nations of North America, Garreau (a journalist) (1981) divides North America into nine areas. These areas, or as he labels them, "nations," are the nine "super" regions in which he contends we have divided ourselves. Unfortunately, there is no Southwest in Garreau's definition, the southwestern area of the United States is included in three different regions.

In 1973 Pearcy proposed a redistribution of the expanse of the United States into thirty-eight new "states." One of the new states is carved out of the hearts of Arizona and New Mexico. This state, named "Cochise" after the Apache Chief, excludes western and northern Arizona, northern and eastern New Mexico, and includes the El Paso area of Texas. Pearcy equates this new state with the great American Southwest and defines it principally by the arid climate, landforms, and the Native American and Spanish traditions.

Other "Definitions"

The most contemporary definition offered here is that of Jerry Colangelo (the Chief Executive Officer of the National Basketball Association's Phoenix Suns and a partner in the new Major League Baseball franchise in Phoenix) and Martin Stone (the owner of the Pacific Coast League's
Phoenix Firebirds, a AAA team, and a limited partner in the new Major League team). The two have had discussions about a "Southwest cable-TV package that would link Tucson, Phoenix, Albuquerque, Las Vegas, and El Paso" (Hansen 1994, C-12). If the market areas of these five metropolitan areas are added together we have essentially the Southwest of Meinig and others, with the addition of the Las Vegas area.

A final "set" of definitions of the region is based on the trade areas of major companies identifying with the region via the use of the term "Southwest." One of these companies is Southwest Gas, which is based in Las Vegas. Southwest Gas does business, and is thus likely to influence people's views about their status vis-à-vis the region, in Arizona, Nevada, and California. They, however, only do business in the southern half of Arizona, in the Las Vegas area, in the Carson City area and northeast to North Central Nevada, and in the Victorville, California area, thus their influence is somewhat limited.

Another regional company which utilizes the term is Southwestern Bell. This company, with headquarters in St. Louis, does business in Arkansas, Missouri, Kansas, Oklahoma, and Texas, thus it has a larger trade area and sphere of influence than does Southwest Gas. Arizona and New Mexico, both almost always included in the Southwest were served by Mountain Bell prior to the breakup of AT&T
and are now served by US West Communications. This definition, thus, seems to have more of a historical basis than contemporary.

The final regional company (included here) to utilize the term is Southwest Airlines, which has headquarters in Dallas. The June 6, 1994 Flight Schedule was examined for the number of non-stop flights leaving each airport served by Southwest each day. This was done so that a simple measure of the airline's visibility in each market could be constructed. Among single airports, the top nine (all with a number of flights greater than plus one-half standard deviation from the mean number of flights) in number of non-stop flights are (1) Phoenix, (2) Houston, (3) St. Louis, (4) Las Vegas, (5) Albuquerque, (6) Dallas, (7) El Paso, (8) Oakland, and (9) Chicago. With the exceptions of St. Louis and Chicago which are large cities with large airports which could be said to be funneling people into and out of the region, and Oakland which is in a large metropolitan area where the same argument could be made, all of these cities are well within many definitions offered above. In any case this is simply a very loose definition that seems to indicate that people in certain areas may feel akin to the Southwest, and this may have something to do with the presence of Southwest Airlines, among other things.
Common Ground

Although this list of definitions of the Southwest is far from exhaustive, a point has been reached where all of what are arguably the most important definitions are included, and where the inclusion of more definitions would not lead to further refinement. Thus at this point it is appropriate to look at this general agreement (Table 1.1).

Looking at the two vernacular regionalizations (Hale and Zelinsky) there is agreement that parts of Arizona, New Mexico, Texas, and Oklahoma are in the Southwest if Zelinsky's most rigorous definition is used. If, however, we apply his more liberal definition then we include all of Hale's Southwest (except the Arizona Strip which Zelinsky left out) and include small parts of contiguous states (except Utah). The problem with comparing the two (Hale and Zelinsky) is that Zelinsky attempted to be more precise, while Hale included only entire states, thus Hale's is more inexact. This, however, should not be taken to mean that her region is less valid. Comparison of the two is, however, difficult.

The major academic offering of the region is Meinig's (1971). His definition, while it is more exact in terms of space like Zelinsky's, is more spatially restrictive than either of the two vernacular offerings. He includes only
Table 1.1
Comparison of Selected Southwesterns

<table>
<thead>
<tr>
<th></th>
<th>Vernacular Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hale 1971</td>
<td>Arizona, New Mexico, Texas, Oklahoma</td>
</tr>
<tr>
<td>Zelinsky 1980</td>
<td>Arizona (minus the Strip), New Mexico, Texas, Oklahoma, and parts of contiguous states except Utah.</td>
</tr>
<tr>
<td></td>
<td><strong>Geographers' Definitions</strong></td>
</tr>
<tr>
<td>Meinig 1971</td>
<td>Arizona (minus the Strip), New Mexico (minus the southeast corner), southern Colorado, and the El Paso area of Texas.</td>
</tr>
<tr>
<td>Paterson 1989</td>
<td>Arizona, New Mexico, southern Colorado, the El Paso area of Texas, and southern California.</td>
</tr>
<tr>
<td></td>
<td><strong>Others' Definitions</strong></td>
</tr>
<tr>
<td>Lavender 1980</td>
<td>Arizona, New Mexico, and parts of contiguous states.</td>
</tr>
<tr>
<td>Byrkit 1992</td>
<td>Arizona, New Mexico (except the eastern part) and parts of contiguous states.</td>
</tr>
<tr>
<td></td>
<td><strong>General agreement (including those not in table above)</strong></td>
</tr>
<tr>
<td></td>
<td>New Mexico and Arizona, with the western parts of Texas and Oklahoma usually included and the southern parts of Colorado, Utah, Nevada, and California sometimes included.</td>
</tr>
</tbody>
</table>
Arizona (except the Strip), New Mexico (except the southeast corner), southern Colorado, and the El Paso area of Texas.

Of the three textbooks on the US (and Canada) examined, Birdsall and Florin (1992) included a Border Southwest (which is a somewhat different region), and White, Foscue, and McKnight (1985) did not include any type of Southwest. Only Paterson (1989) included a Southwest, and he was very general in his regionalization. The Paterson definition includes Arizona, New Mexico, southern Colorado, the El Paso area of Texas, and southern California (more or less). This does not extend nearly as far to the east as the vernacular definitions, but is larger than Meinig's.

The two other (non-geographer) major definitions are Lavender's (1980) and Byrkit's (1992). Both are of the Zelinsky-Meinig mold in that they include partial states, but both are far more spatially restrictive than Hale or Zelinsky. Lavender includes only Arizona and New Mexico and small parts of contiguous states, while Byrkit includes Arizona and New Mexico (minus the eastern side) and parts of contiguous states.

The general agreement among all of these (excluding the business areas of Southwest Gas, Southwestern Bell, and Southwest Airlines) is that New Mexico, except for an occasional discarding of the southeastern corner or the far eastern strip of the state, is well within the region.
Every definition offered above includes New Mexico, and only a very few do not include the entire state. Arizona is included in all but one of the definitions. As with New Mexico, the entirety of the state is almost always included (when not, it is the Arizona Strip which is excluded).

Beyond New Mexico and Arizona, Texas, or some part of it, is included in most cases. When the entire state is not included, it is the El Paso area or western Texas which is included. Oklahoma, or some part (i.e., the southwestern part and/or the panhandle), is included in about half of the definitions. Beyond these four states, or parts of them, no other state is included in at least half of the definitions. Of the remainder, only Colorado (usually only southern), Utah (usually only southern), Nevada (usually the Las Vegas area), and California (usually only southern) are mentioned more than two or three times.

The general agreement, then, is that Arizona and New Mexico are definitely in the Southwest. The El Paso area of Texas or all of western Texas is also in the region, as is the western part of Oklahoma. Beyond this, there is little agreement, although the southern parts of the tier of states to the north and west of New Mexico and Arizona are seen by some as Southwestern. Although this includes the Southwest of both Hale and Zelinsky, it looks nothing like either. As Hale's study is now twenty-five years old and Zelinsky's is
sixteen, and as they differ from each other significantly in exactly where the Southwest is located and as they differ from other academic definitions of the Southwest, it is appropriate at this time to attempt, again, to define the Southwest as a vernacular region.

**Research Questions**

There are numerous questions to be addressed beyond simply locating the Southwest on the map. One of the most important is, how do we come to define regions? Or, more specifically, from where do we obtain the information upon which we base our definitions. To this end we must discover how first-hand information influences regional definitions vis-à-vis second- and third-hand information.

It is widely known that people base their definition of their home region far more on first-hand information (i.e., interaction) than do others (Downs and Stea 1977, Gould and White 1974, Saarinen 1976, Tolman 1948). Those outside of the region base their definitions more on second- and third-hand information (i.e., reading, watching television, etc.). How important are these various sources and how does this affect definitions? In this case, are those from Arizona and New Mexico more likely to exclude from the Southwest the Arizona Strip and Pecos River Valley because of their more intimate knowledge? Or do they simply include the
entireties of the two states? Do these same people define the Southwest as a smaller area than others for the same reason (more intimate knowledge) and from regional pride as was the case in previous research on the South (Lowry 1988)?

With more first-hand knowledge, are people from the Southwest more accurate in their perception of where their defining criteria are located? To what extent do "popular" media (sometimes wrongly) influence the definitions of outsiders? The saguaro, as a prime example, is limited to only a very small portion of the Southwest (in southern Arizona and small pockets along the Colorado River in California), but Taco Bell commercials, Interstate Battery commercials, and so forth, lead us to believe it is ubiquitous. With this in mind, do people from the non-Southwest display more "error" in terms of the difference between where they place the Southwest on the map and the actual locations of their defining criteria than do those from Arizona and New Mexico? That is, would non-Southwesterners be able to accurately locate on a map the criteria by which they define the Southwest as well as Southwesterners?

Does ethnicity affect definitions? Do males and females see the Southwest the same, or differently? If differently, is this because of different vectors of information? How important is one's location vis-à-vis the
Southwest in one's definition? Which is more important, gender, or location? Or is one's race or ethnicity more important. Which of the three plays the more major role, if any?

The goal is to examine if, and how, the Southwest as is defined in this dissertation coincides with the Southwest as defined by Hale, Zelinsky, Meinig, Lavender, Byrkit, etc. In order to reach this understanding it is necessary to first understand from where people derive their definitions of the region. Thus, the two-fold purpose of this research: (1) How do definitions of the Southwest differ among different groups of people (by location, ethnicity, and gender) and (2) How do these definitions coincide with the others previously mentioned, and how can these differences, if any, be reconciled to arrive at a more comprehensive definition of the region? Finally, what does all of this tell us about how various vectors of information influence regional definitions? And, what should we do with that information as geographers?
II. DEFINING THE SOUTHWEST: RESEARCH METHODS

In a previous study of the South as a cognitive, or vernacular, region (Lowry 1988) a survey was conducted using the South as defined by the Bureau of the Census (i.e., the "Census South"). The area defined as the South by the Bureau of the Census includes sixteen states, an area readily accepted as larger than the "real" South. It was then convenient, and proper, to search for the South within this area.

In the present case, however, there is no "Census Southwest," and, as we have seen above, little agreement beyond Arizona and New Mexico as to where else we may find the Southwest. Therefore it is necessary to devise another method for identifying a study area of sufficient size so as to not exclude any place which may be Southwestern without unnecessarily covering too large an area (i.e., it is important to ensure that all places which are potentially Southwestern are included, but this is not the case with the non-Southwest where blanket coverage is unnecessary).

Zelinsky's method for locating North America's vernacular regions by using telephone directories cited above, a method previously employed by Reed (1976) to locate the "Heart of Dixie," and by Shortridge (1985) to locate the Middle West, is the method chosen here to define a study area.
In the previous studies by Zelinsky, Reed, and Shortridge the rationale was that businesses and organizations would use words in their names that have locational significance. Thus, in Zelinsky's case, he found "Southwest(ern)" to be a leading term in, for example, Tucson, while "Southern," "Southeastern," and "Dixie," were the leading terms in Charlotte, North Carolina.

A total of fifty Metropolitan Statistical Areas (MSAs) were selected for the telephone book survey. Although the MSAs selected are located throughout the United States, MSAs in Arizona, New Mexico, Texas, and their neighbors are predominant. The rationale for including MSAs throughout the country is to try to define the part of the country between what is obviously Southwestern (e.g., Phoenix or Albuquerque) and that which is obviously non-Southwestern (e.g., Birmingham, Alabama or Buffalo, New York). One non-MSA, Flagstaff, Arizona (which now is an MSA), was included so as to not overlook northern Arizona. MSAs are used in such surveys because of the principles of Central Place Theory; businesses congregate in larger places to satisfy demand.

The business white pages of telephone books were examined for the number of occurrences of "Southwest" or "Southwestern" as the first word in the names of businesses, associations, organizations, etc. Only first word
occurrences were utilized because of the preliminary nature of this work, and, as in Zelinsky, because of time constraints and the belief that no systematic bias is introduced by this method. In every case the most recent telephone book available either in hard copy or on microfiche was examined.

In this survey multiple branches of the same business were counted only once (and were relatively uncommon). For example, in areas served by Southwestern Bell the company itself is listed as are subsidiaries such as the Southwestern Bell Yellow Pages or Southwestern Bell Mobile. As these are essentially all one company they are counted only once.

Including obviously non-Southwestern MSAs such as Atlanta and Charlotte in the South, Chicago and Cincinnati in the Midwest, Buffalo in the Northeast, and Seattle and Portland in the Northwest, in addition to the rationale mentioned above, allows us to establish a benchmark of "Southwest." In many cases the MSAs included are geographically large, and, thus, there will be a part of the city considered Southwest(ern) Sacramento or Southwest(ern) Atlanta. Including large non-Southwestern MSAs provides an indication of how much of this "background" noise we may expect, and may help distinguish in borderline areas.
In other cases the MSA may be situated in the southwestern part of its state and names of businesses may refer to that (as in the San Antonio area which is close to San Marcos, the home of Southwest Texas State University). Whenever it was apparent that "Southwest(ern)" referred to the state and not the region in question here, that particular organization was not included.

In order to ensure comparability between places as large as Phoenix with smaller places such as Yuma it was necessary to construct a rating system. The most simple method was to calculate the number of businesses, organizations, associations, etc. using "Southwest(ern)" per ten thousand population. The population data are for the MSA and not the central city as the phone books cover the larger metropolitan area (the population figure used for Flagstaff is that of Coconino County). The results of this calculation are displayed in Table 2.1.

In order to make some sense of these numbers they were divided into three classes: one Southwestern, one transition, and one non-Southwestern. The mean of the fifty observations (MSAs) is 1.26 businesses per 10,000 residents. Taking one-half of the standard deviation of 1.30 as a cutoff, the list can be easily divided into the three classes.
Table 2.1

Cities and SW entries per 10,000 population

<table>
<thead>
<tr>
<th>Southwest</th>
<th>Transition Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Santa Fe, NM</td>
<td>4.87</td>
</tr>
<tr>
<td>2. Albuquerque, NM</td>
<td>4.60</td>
</tr>
<tr>
<td>3. Las Cruces, NM</td>
<td>3.69</td>
</tr>
<tr>
<td>4. Yuma, AZ</td>
<td>3.55</td>
</tr>
<tr>
<td>5. Lubbock, TX</td>
<td>3.19</td>
</tr>
<tr>
<td>6. Odessa, TX</td>
<td>3.03</td>
</tr>
<tr>
<td>7. El Paso, TX</td>
<td>2.92</td>
</tr>
<tr>
<td>8. Phoenix, AZ</td>
<td>2.83</td>
</tr>
<tr>
<td>9. Amarillo, TX</td>
<td>2.77</td>
</tr>
<tr>
<td>10. Tucson, AZ</td>
<td>2.65</td>
</tr>
<tr>
<td>11. Abilene, TX</td>
<td>2.42</td>
</tr>
<tr>
<td>12. Springfield, MO</td>
<td>1.95</td>
</tr>
<tr>
<td>13. Dallas, TX</td>
<td>1.85</td>
</tr>
<tr>
<td>14. Austin, TX</td>
<td>1.83</td>
</tr>
<tr>
<td>15. Las Vegas, NV</td>
<td>1.82</td>
</tr>
<tr>
<td>16. Houston, TX</td>
<td>1.75</td>
</tr>
<tr>
<td>17. San Antonio, TX</td>
<td>1.72</td>
</tr>
<tr>
<td>18. Oklahoma City, OK</td>
<td>1.71</td>
</tr>
<tr>
<td>19. Ft. Worth, TX</td>
<td>1.62</td>
</tr>
<tr>
<td>20. Little Rock, AR</td>
<td>1.40</td>
</tr>
<tr>
<td>21. Flagstaff, AZ</td>
<td>1.35</td>
</tr>
<tr>
<td>22. Tulsa, OK</td>
<td>1.16</td>
</tr>
<tr>
<td>23. Pueblo, CO</td>
<td>1.06</td>
</tr>
<tr>
<td>24. Waco, TX</td>
<td>0.90</td>
</tr>
<tr>
<td>25. Casper, WY</td>
<td>0.65</td>
</tr>
<tr>
<td>26. San Diego, CA</td>
<td>0.62</td>
</tr>
</tbody>
</table>

| Non-Southwest                      |                     |
| 27. Denver, CO                     | 0.54                |
| 28. Wichita, KS                    | 0.54                |
| 29. Reno, NV                       | 0.39                |
| 30. Omaha, NE                      | 0.36                |
| 31. Monroe, LA                     | 0.35                |
| 32. Shreveport, LA                 | 0.30                |
| 33. Jackson, MS                    | 0.28                |
| 34. Cincinnati, OH                 | 0.25                |
| 35. Boise, ID                      | 0.24                |
| 36. Portland, OR                   | 0.22                |
| 37. Kansas City, MO                | 0.22                |
| 38. Atlanta, GA                    | 0.19                |
| 39. Boulder, CO                    | 0.18                |
| 40. St. Louis, MO                  | 0.18                |
| 41. Seattle, WA                    | 0.14                |
| 42. Chicago, IL                    | 0.14                |
| 43. Memphis, TN                    | 0.13                |
| 44. Salt Lake City, UT             | 0.13                |
| 45. New Orleans, LA                | 0.10                |
| 46. Buffalo, NY                    | 0.06                |
| 47. Birmingham, AL                 | 0.06                |
| 48. Fresno, CA                     | 0.04                |
| 49. Sacramento, CA                 | 0.04                |
| 50. Charlotte, NC                  | 0.03                |

Source: Calculated by author from current telephone directories in either the Tucson Public Library or in the University of Arizona Library in either hard copy form or on microfiche from Phone Fiche, University Microfilms Inc., Bell & Howell, Ann Arbor, Michigan; population data from Courtenay Slater & George E. Hall (eds.) 1993. 1993 County and City Extra: Annual Metro, City and County Data Book. Lanham, MD: Bernan Press.
The transition class is within one-half standard deviation of the mean in either direction. These are MSAs which may be in the Southwest, and range from #13 (Dallas) to #26 (San Diego). The Southwestern class is those MSAs above the mean plus one-half standard deviation, and is thus those that range from #1 (Santa Fe) through #12 (Springfield). Finally, the non-Southwestern class includes those below the mean minus one-half standard deviation, which are those from #27 (Denver) to #50 (Charlotte).

The resultant Southwestern class includes MSAs within most of the academic and vernacular Southwesterns mentioned above. The top three Southwestern MSAs, according to this method, are the three MSAs in New Mexico. The three MSAs in Arizona (excluding Flagstaff) are also in the top ten and are displaced only by MSAs in western Texas (Lubbock, Odessa, El Paso, and Amarillo). Of the two remaining MSAs, Abilene is also in western Texas.

That leaves us with Springfield, Missouri at #12. This is significantly higher than one would expect, but it can be easily explained. Springfield is the home of Southwest Missouri State University and there were sixteen businesses using "Southwest Missouri" in their names (none of which were used in the calculation). Also, it should be remembered that Missouri is in the historical Southwest of the nineteenth century. As there is no way of determining
how many of the other businesses meant "Southwest Missouri" instead of "Southwest", or were using the term in a historical sense, Springfield's high score cannot necessarily be taken to mean that it is a Southwestern city.

The non-Southwestern class includes many of the MSAs included as obviously non-Southwestern, and others that have traditionally been considered at least somewhat Southwestern (e.g., Denver at #27 and Boulder at #35). The most salient points from this non-Southwestern group, besides the exclusion of Denver and Boulder, is the placement of Reno, Nevada at #29 and Salt Lake City at #43. The Southwest apparently disappears somewhat quickly to the north of Arizona and New Mexico.

The transition class includes those MSAs for which we obviously need more information. The upper reaches of the class are dominated by MSAs from central and eastern Texas. At the top of the list, barely off of the Southwestern list are Dallas #13, Austin #14, Houston #16, San Antonio #17, and Ft. Worth #19. Although these MSAs rank high, their ratings are a considerable drop-off from Abilene's (it should be noted that many consider this part of Texas to be in the South, see Lowry (1988)). Abilene placed #11 with a rating of 2.42 while Dallas placed #13 with a rating of 1.85, a difference of 0.57. The difference, however, between Dallas (#13) and Ft. Worth (#19) is only 0.23. From
these results it can be said that while central and eastern Texas are somewhat Southwestern, they are notably less Southwestern than their West Texas peers, and are, therefore, transitional between the Southwest and other vernacular regions.

Other transition MSAs which barely missed being Southwestern include Las Vegas (#15) and Oklahoma City (#18), both geographically close to MSAs in this Southwest. Flagstaff fell well below its Arizona peers and placed only #21. Although Flagstaff is not in the Arizona Strip, this does seem to support the notion that northern Arizona may not be Southwestern. Tulsa solidifies Oklahoma's transitory nature by placing #22. Waco is the least Southwestern MSA in Texas included in the survey and placed only #24. The final two transition MSAs have ratings much more similar to those at the top of the non-Southwestern class than to those right above them in the transition class. Casper placed #25, and San Diego placed #26, and are probably non-Southwestern.

One of the problematic cities in the study is Little Rock, which placed #20. Confusion among Arkansans in such matters has been documented, much of which is specifically related to the question at hand. Hale found that only 36.8% of Arkansans identified with the South, while 25.7% identified with the Southwest (1971, 60-61). Good (1981)
also documented this confusion (or lack of ability to agree upon a culture region). In his survey of over one thousand college students in Arkansas, one hundred thirty-nine identified with the South and ninety identified with the Southwest. Good attributes this to the membership of the University of Arkansas in the Southwest Conference, where all of the other members were from Texas. If this is the case, this should be changing now as the university has switched to the Southeastern Conference. As with Springfield, this area was in what was once considered the Southwest, and apparently still is by many (see Figure 1.1). Regardless of the reason, Little Rock, according to this study, is significantly more Southwestern than would be expected.

An examination of Figure 2.1 reveals these three classes. The Southwest as defined here includes southern and central Arizona, all of New Mexico, western Texas, and southwestern Missouri. The remainder of Texas, Oklahoma, small parts of some states contiguous to Arizona and New Mexico, and possibly Arkansas are in a transitory area. Everything else is non-Southwest, much as in the general agreement of definitions in Table 1.1.
Figure 2.1
The "Phone Book" Southwest

Source: Compiled by researcher.
Applying the "Phone Book" Southwest

The telephone book survey provided the basis for defining the vernacular Southwest as a study area for a survey of (primarily) college students on the location and characteristics of the Southwest. The survey consisted of providing respondents with an outline map of the continental United States and a short questionnaire (see Appendix A for instructions, map, and questionnaire). On the map the states were labeled with their two-letter abbreviations to reduce as much error as possible from potential respondent geographic illiteracy. The map is at a scale of 1:19,008,000 (or one inch equals three hundred miles). The questionnaire was aimed at identifying the "place" of the region, and at attempting to understand how people came to know the region.

After successfully testing this on students enrolled in introductory geography classes at the University of Arizona during the fall semester of 1994, it was administered in the spring of 1995 to people located throughout the Southwest, the Transition Zone, and some contiguous states indicated on Figure 2.1. Included were the states of Arizona, New Mexico, Texas, Oklahoma, California, Nevada, Utah, Colorado, Kansas, Missouri, Arkansas, and Louisiana (Figure 2.2). Additionally, sites well outside of the Southwest (in Washington, Ohio, North Carolina, Massachusetts, and
Figure 2.2
Survey Sites

★ Colleges/Universities (32)
■ High Schools (2)
▲ Retirement Communities (1)
Newfoundland) were included to give a good non-Southwest geographic coverage for comparison of both images and their sources.

The sites in Arizona, New Mexico, Texas, and Oklahoma were selected because of their agreed upon location within the Southwest or Transition Zone. Sites in California, Nevada, Colorado, Missouri, and Arkansas were selected because at least part of each of these states is in the Transition Zone. The non-Southwestern sites in Utah, Kansas, and Louisiana were selected because they are located outside of the Southwest, but are contiguous. Finally, the sites in Washington, Ohio, North Carolina, Massachusetts, North Carolina, and Newfoundland were selected because of their location well outside of the Southwest.

It was hoped that at least one hundred responses from each site would be obtained. In many cases the number of responses was more than adequate. Students are commonly employed in research such as this because they are highly accessible and as captive audiences have high potential "response rates," (Jordan 1978; Raitz and Ulack 1981; Shortridge 1980 and 1985; Lowry 1988). Because college students are the (primary) respondents, the view of the Southwest presented below will be that of a group more educated than the total population. The availability of this group, however, is believed to compensate for the
slightly less vernacular results than would be expected with a sample more representative of the total population.

Previous experience (Lowry 1988) has shown a lack of ethnic and/or racial diversity among respondents in such a survey of (mostly Anglo American) college students. As Meinig and others have noted, there are three primary ethnic groups populating the Southwest. To compensate for this potential lack of diversity, Arizona high school students were included. An attempt was made to include high schools with large Native American and Hispanic populations (one Texas university site also provided a large sample of Hispanics). In addition, a retirement community in Arizona (Sun City) was included. This group is more educated, more well traveled, and more experienced than the others in the survey and the total population.

The map portion of the survey entailed having the respondents outline the area on the map that they consider to be the Southwest. The obvious purpose here is simply to determine where they believe the region termed the "Southwest" actually exists. An overlay grid was constructed to record what was included in the Southwest and what was not by each respondent. The grid consists of cells which are labeled by row and column. Each cell covers an area of 2,500 square miles (or fifty miles square). This was placed over each completed map so that frequency of
inclusion could be calculated for each cell and simple isoline maps constructed. In the case of partial cell inclusion, cells were counted in their entireties. On the maps thus constructed, when a boundary line between zones passed through a cell or row of cells in which a state line also passed, the boundary between zones was shifted to the state line in place of the cell edge (justification explained below).

The grid was constructed so that it could be placed over the maps so that crosshairs of the grid directly correspond to the Four Corners area. This was done because it was believed that many students would simply follow state lines (along northern Arizona and New Mexico), as was the case in the pretest (and was the case in the survey as 39.92% of the respondents followed state lines exclusively, plus others who sometimes did). This was chosen over random placing of the grid so that use of these northern borders by the students would be captured and more accurately displayed in the results.

The country was then divided, according to Meinig (1965), into four degrees of Southwesternness: "A core area...is taken to mean a centralized area of concentration, displaying the greatest degree of occupance, intensity or organization, strength, and homogeneity of the particular features characteristic of the culture under study. It is
the most vital center, the seat of power, the focus of circulation.

The domain refers to those areas in which the particular culture under study is dominant, but with markedly less intensity and complexity of development than in the core, where the bonds of connection are fewer and more tenuous and where regional peculiarities are clearly evident.

The sphere of a culture may be defined as the zone of outer influence and, often, peripheral acculturation, wherein that culture is represented only by certain of its elements or where its peoples reside as minorities among those of a different culture" (213-17).

For the purpose here the core is that part of the United States in which seventy-five percent or more of the respondents agree upon as being in the Southwest. The domain is that area in which there is fifty percent or higher agreement, but less than seventy-five percent. The sphere is that area in which there is twenty-five percent or higher agreement, but less than fifty percent. And, finally, the non-Southwest is the remainder of the country (less than twenty-five percent agreement). This scheme neatly divides the country into quartiles of Southwesterness, and, most importantly, displays that not
all places are equally Southwestern as one moves away from a central core area.

The questionnaire was designed to elicit defining characteristics of the Southwest (i.e., the "place") through a series of (mostly) open-ended questions. In addition, the questionnaire sought out sources of information on the region. In addition to having a list of Southwestern traits, this allows a double-checking of the map portion of the research. Where possible, Southwestern traits, cities and other places, and symbols ascertained by the questionnaire were mapped. These maps were then merged to complete a map of the complex of Southwestern traits. The locations of these traits are compared with the maps of the Southwest constructed from the map portion of the questionnaire to check the accuracy of the relationship between where respondents believe the Southwest to be with the actual locations of items they identify as Southwestern.

The first question requested the respondents to list up to five words which they felt were most descriptive of the Southwest. The open-ended format was selected to reduce questionnaire bias as much as possible. The words selected could be either positive, negative, or both. The purpose of this question was to devise a list of characteristics associated with the area the students define as the Southwest. Expected among the top responses were heat,
aridity, descriptive landscape features, and the cultural mix, all of which are the most important characteristics mentioned in the definitions surveyed previously.

When the first set of questionnaires were returned all of the responses were recorded and then collapsed into a more manageable set of traits (e.g., hot and warm were combined into a single response, as were dry and arid). This list was then used as a framework for the second set, and was slightly refined into a larger set. After several iterations, a final set of characteristics was completed as there were virtually no "new" responses appearing. This set was then employed to re-inspect all of the previously completed questionnaires for consistency.

The respondents were asked to circle the response (characteristic) from the first question they felt was the most descriptive. As there is no way of knowing if the respondents listed five traits in order of importance or not, this was done in an attempt to determine which of the five was felt to be the most important factor. Although this seems to simply duplicate the first question, it does not necessarily do so. For example, if defining the South, 90% of respondents may say that it is humid, while 75% say that is known for religious fundamentalism. This may not necessarily imply that humidity is seen as more important, just more widely known. It is possible that while more
respondents listed humid than religious fundamentalism (and many would have listed both), a greater number could see religious fundamentalism as more important in defining the region.

The second question queried how important, via a rating scale, the following factors are/were in influencing the respondents' definition of the Southwest: (1) Readings (books, magazines, newspapers, etc.), (2) Classes in high school or college, (3) Living in the Southwest, (4) Traveling in the Southwest, (5) Movies, (6) Television (PBS, news, cartoons, sitcoms, commercials, cable, etc.), and (7) Friends and relatives. The purpose was to determine the most important factors influencing the regional image and how they relate to the resultant images. The respondents were then asked if particular movies, books, authors, television shows, etc. greatly influenced their definition, and, if so, what they are.

Next, the respondents were asked if particular cities or other places best represent the Southwest, and, if so, what they are. In this case the purpose was to determine what specific places are recognized as images or symbols of the Southwest. Likely examples include Santa Fe, Tucson, Tombstone, the Grand Canyon, and Monument Valley (even though the last two are included only in the buffer zone of most definitions surveyed above). Related to this, the
respondents were asked if there is anything which stands as a symbol of the Southwest, and, if so, what it is. Although the saguaro cactus grows only in the Sonoran Desert, it is believed that the saguaro will be seen as the symbol by the students as it is commonly used by advertisers as such. Other candidates include the Grand Canyon, Monument Valley, Four Corners, the sun, deserts, and mountains.

The next set of questions dealt with the demographics of the respondents. Included in this block of questions were two that asked for hometown and length of residence. To ensure that the image from, for example, Arizona represents Arizonans only, those respondents claiming residence of at least five years in the state were included in the analyses. Also included is a question asking if the respondent has ever lived in the Southwest and a question asking if the student's hometown is in the Southwest.

Finally, the last question was the single open-ended "essay"-type question. In an attempt to elicit original, non-constrained (by the wording and intent of the question) answers, the respondents were asked how they would describe the Southwest on a postcard to someone who has never been there. For those who chose to answer the question (another reason for it being last) it was believed that original, very descriptive, material would be offered. In order to help the respondents keep their responses short, partially
to facilitate compiling results, the "postcard" format was selected so that they would be as descriptive as possible without thinking that they had to write everything that comes to mind. Descriptive passages are included in the results where appropriate.

In both cases, with the map and the questionnaire, results were condensed into three subsets of ten groups: subset one being (1) males and (2) females; subset two being (3) those from the core as identified here, (4) those from the combined domain and sphere (the combination of the two is explained and justified below), and (5) those from the non-Southwest; and subset three being (6) African Americans, (7) Anglo Americans, (8) Asian Americans, (9) Hispanics, and (10) Native Americans. Each of these were analyzed to determine the importance of location, gender, and ethnicity in defining the Southwest. Combined, the map results and the questionnaire results provided a picture of the space of the Southwest (i.e., where it is) and the place of the Southwest (i.e., what the characteristics are that distinguish and define it as a region).

The Survey

From January 5, 1995 through March 22, 1995 a total of 4,685 questionnaire/maps (q/m) were mailed to thirty-three of the thirty-five sites (see Appendix B for list of sites
and demographic breakdowns). An additional sixty-five were distributed at the two remaining sites in April, for a total of 4,750 to the thirty-five sites.

The first two sets of q/m were returned on January 21, 1995, and the last set on May 18, 1995. A total of 3,498 completed q/m were received, for a "response rate" of 73.6%. Of these, 2,245 met the qualifying criterion of greater than five years residence in the state in which they were completing the q/m (and did not complete it for some region other than the Southwest). This represents 64.2% of those completed and returned, and 47.3% of those distributed.

Not all respondents who completed the questionnaire completed the map, and many who did complete the map did so in an unintelligible manner. Two-thousand thirty-nine of the maps were completed in an intelligible manner (90.8% of the 2,245).

**Demographics of the Respondents**

The gender, location, and race/ethnic breakdown of the respondents is displayed in Table 2.2. The average age of all of the respondents is 22.99, with the females slightly older than the males (23.03 vs. 22.94). The Hispanics are the oldest group at 23.51, with the females older (23.72 vs. 23.18). The Anglo American group average age is 23.10, with the females older (23.15 vs. 23.02). The Native Americans
Table 2.2

Gender, Location, and Race/Ethnic Breakdown of Respondents

<table>
<thead>
<tr>
<th>Group</th>
<th>Males</th>
<th></th>
<th>Females</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>African Am.</td>
<td>32</td>
<td>1.4</td>
<td>40</td>
<td>1.8</td>
<td>72</td>
<td>3.2</td>
</tr>
<tr>
<td>Anglo Am.</td>
<td>706</td>
<td>31.4</td>
<td>723</td>
<td>32.2</td>
<td>1429</td>
<td>63.7</td>
</tr>
<tr>
<td>Asian Am.</td>
<td>59</td>
<td>2.6</td>
<td>57</td>
<td>2.5</td>
<td>116</td>
<td>5.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>97</td>
<td>4.3</td>
<td>158</td>
<td>7.0</td>
<td>255</td>
<td>11.4</td>
</tr>
<tr>
<td>Native Am.</td>
<td>59</td>
<td>2.6</td>
<td>74</td>
<td>3.3</td>
<td>133</td>
<td>5.9</td>
</tr>
<tr>
<td>Other</td>
<td>113</td>
<td>5.0</td>
<td>127</td>
<td>5.7</td>
<td>240</td>
<td>10.7</td>
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<tr>
<td>Core</td>
<td>214</td>
<td>44.7</td>
<td>265</td>
<td>55.3</td>
<td>479</td>
<td>21.3</td>
</tr>
<tr>
<td>Domain/Sphere</td>
<td>448</td>
<td>46.3</td>
<td>520</td>
<td>53.7</td>
<td>968</td>
<td>43.1</td>
</tr>
<tr>
<td>non-Southwest</td>
<td>404</td>
<td>50.6</td>
<td>394</td>
<td>49.4</td>
<td>798</td>
<td>35.5</td>
</tr>
<tr>
<td>Total</td>
<td>1066</td>
<td>47.5</td>
<td>1179</td>
<td>52.5</td>
<td>2245</td>
<td>100.0</td>
</tr>
</tbody>
</table>
average is 22.55, with the males older (23.31 vs. 21.64). The second youngest group is the African Americans at 21.79, with the males older (23.44 vs. 20.48). The youngest group is the Asian Americans at 21.67, with the males older (22.20 vs. 21.12).

The Map

The remainder of this dissertation is dedicated to a presentation and discussion of the results. Presented first is a composite map of the view of the location of the Southwest by all 2,039 respondents who correctly completed the map (demographic breakdown in Appendix B). Although this map is the central result of the survey it is being presented first because every other map and result of this dissertation can be most effectively examined vis-à-vis the composite map.

Following the composite map are presentations of maps from each of the ten groups. Again, these are examined for significant differences between the genders, among the ethnic/racial groups, and among the location groups. In order to compare the results of these various groups it was necessary to select several points, or map cells, upon which to base the examinations. The cells selected are those which are the locations of cities identified as being representative of the Southwest on question four of the
questionnaire, plus several others selected to provide more comprehensive map coverage. For each of these cells significance tests were conducted to determine, for example, if the male view differed significantly from the female.

The Questionnaire

Following the map portion of the survey, the questionnaire portion is presented. In addition to reporting the results, those from the first, fourth, and fifth questions are, for the most part, mappable. These maps are compared to the composite map to determine how well the actual locations of defining criteria and symbols coincide with the corresponding views. For all questions the results are presented in the same fashion as those of the map, the composite results are presented first, followed by results from each of the ten groups.

Finally, several responses to the "postcard" question are presented to augment the previous questions and their results. They were selected from most sites, although a few sites (mostly non-Southwestern) yielded very few responses. Most of the responses presented were selected because they appeared to be representative of their sites. The responses are presented in their entireties (complete with bad grammar and misspellings) with little comment.
Lastly, the map responses and questionnaire responses are combined into a comprehensive view of where the Southwest is located, what its primary defining characteristics and symbols are, and how respondents came to know the region. These responses are examined to determine what importance gender, location, and race/ethnicity play, if any, in one's view of the region.
III. DEFINING THE SOUTHWEST: RESULTS FROM THE MAP EXERCISE

The Southwest as spatially defined by the 2,039 respondents who completed the map portion of the survey is displayed in Figure 3.1 (see Appendix C for maps from the thirty-five survey sites and from the ten multiple-site states). This Southwest is presented via the four areas discussed previously: (1) the core of the region, the area at least 75% of the respondents included, (2) the domain, the area of at least 50%, but less than 75% agreement, (3) the sphere of influence, the area of at least 25%, but less than 50% agreement, and (4) the non-Southwest, the area less than 25% included.

The map results are presented in the following order: (1) the Southwest as seen by all of the respondents is presented and discussed in some detail, (2) brief presentations of the gender, location, and race/ethnicity maps, and (3) the results of a statistical analysis examining the maps for significant differences (i.e., male vs. female) are presented.

The core of the Southwest is clearly an Arizona-New Mexico phenomenon. The only non-Arizona-New Mexico core area is the El Paso area of Texas. With the single cell of highest inclusion rate, Arizona is the most Southwestern state in the survey. New Mexico is the second most Southwestern state in the survey, just behind Arizona. The
Figure 3.1
The Southwest
(Composite)

% Inclusion
96.7%
> 75%
> 50%
> 25%

Source: Calculated by Researcher.
El Paso part of the core is seen as notably less Southwestern than Arizona and New Mexico.

The domain is also clearly an Arizona-New Mexico phenomenon as it wraps around the two from Texas through Colorado, Utah, and Nevada to California. The highest non-core rates on the map are found in West Texas contiguous to the core of New Mexico and the El Paso area. As is the case all around the periphery of the core of Arizona and New Mexico (but not the El Paso area which has lower rates), there is a large drop-off in rates of inclusion from the core to the domain.

Figure 3.2 displays the same data as Figure 3.1, but at different intervals (in this case in 10% intervals). This was done to better display the rapid departure of the Southwest from the core of Arizona and New Mexico to the remainder of the region and the similar departure from the Southwest. Figures 3.1 and 3.2 complement each other and provide a picture of the strength of Arizona and New Mexico as the core of the region.

Compared to the large drop-offs from the core area of Arizona and New Mexico to the domain of their neighbors, the drop-offs from the domain to the sphere of the Southwest are very small. The one exception to this is the Texas-Oklahoma border, the only place where the domain-sphere break follows a state line. The remainder of the transition from the
Figure 3.2
The Southwest, 2
(Composite)

% Inclusion

Source: Calculated by Researcher.
domain to the sphere is far more smooth as it occurs within states.

At its eastern border with Arkansas and Louisiana, the rates in Texas range from 38.2% to 40.9%. Thus, at this border the sphere of Southwestern influence is still rather strong (this is probably related to the fact that almost 20% of the respondents who completed the map are from Texas, see Appendix C for maps from each of the four Texas sites and a composite of the four). Across the border, however, in Arkansas and Louisiana, the rates of inclusion are only 2-5%. This results in a rapid departure from this Southwest at the eastern terminus of Texas, and makes Little Rock's and Springfield's inclusion in the Phone Book Southwest very suspect. In both cases not only were the Little Rock and Springfield areas excluded in the composite, they were also excluded by respondents from Arkansas and Missouri (see Appendix C for maps from the Missouri and Arkansas sites).

The Southwest as defined here is anchored by its core in Arizona and New Mexico. The El Paso area of Texas is the only other core area, although its rates of inclusion are notably lower than those of Arizona and New Mexico. The very heart of the core and the Southwest is the single cell in southeastern Arizona where the rate of inclusion is 96.7%. Moving away from this cell in every direction rates of inclusion fall.
The domain as seen here almost completely surrounds the core, with the only exception being Oklahoma. The highest rates in the domain are found in West Texas, while the lowest domain highs are found in Colorado. California, Nevada, and Utah also have areas within the domain, with rates increasing from the former to the latter.

The transition from the domain to the sphere occurs within states, with the exception of that from Texas to Oklahoma. The transition from the domain to the sphere is, thus, smooth, with the one exception. This contrasts with the sharp drop-offs from the core to the domain (except within Texas).

The remainders of Texas, Utah, and Nevada, and almost all of the remainders of California and Colorado are filled in by the sphere. About half of Oklahoma is also found within the sphere. Throughout the map, when the outer border of the sphere follows a state line there is a quick departure from the Southwest. In the corners of California and Colorado, and in the non-Southwestern half of Oklahoma, the drop-off from the sphere is gradual. Also, although Kansas has rates as high as 15%, rates in adjacent sphere cells are high enough to make the transition from the region rapid.

The Southwest, then, on the basis of these data, is comprised of the entireties of Arizona, New Mexico, Texas,
Utah, and Nevada, almost all of California and Colorado, and about half of Oklahoma. Beyond these eight states, only Kansas has rates higher than 5%, but it is non-Southwestern as evidenced by the large drop-offs from its Southwestern neighbors.

The views of the ten groups (i.e., the two gender groups, the five race/ethnicity groups, and the three location groups) are presented and briefly discussed below. This begins with the maps of the males and females, followed by the maps of those from the core, the domain and sphere, and the non-Southwest. Lastly, maps of the five race/ethnic groups are presented. After the ten views have been presented they are examined for significant differences. The males are compared with the females, the three location groups are compared with each other, and the five race/ethnic groups with each other.

In the cases of the location group and race/ethnic group no determination of the specific significant differences or directions were sought. For example, with the gender group, because there are only two genders, the fact that there is a significant difference also indicates, via the data upon which the analysis is run, which group includes a cell at a higher rate. With the location group (three) or the race/gender group (five) there is no indication of how many are significantly different from the
others. In this specific case, however, this is not necessary to compute as the ten group maps (Figures 3.3-3.12) visually display the differences and their directions. This is also not the intent or focus of this dissertation. The focus is on which of the three factors, gender, location, or race/ethnicity, is more significant in the formation of one's view of the Southwest.

**Gender and Mapping the Southwest**

The Southwest as seen by males is displayed in Figure 3.3 and as seen by females in Figure 3.4. As these maps seem fairly similar to one another, it is not surprising that they neither seem to deviate much from Figure 3.1. The most notable differences are: (1) the females extend the core more eastward in Texas, (2) the females extend the sphere more eastward in Oklahoma, and (3) the females do not cut off the corners of California and Colorado.

**Location and Mapping the Southwest**

In order to analyze the maps by location it was necessary to collapse the thirty-five sites into several manageable groups. Nine of the survey sites are located within the core of Figure 3.1, thus they constitute one group. These are the six Arizona sites, the two New Mexico sites, and the University of Texas at El Paso. Only three
Figure 3.3
The Southwest As Seen By Males

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
Figure 3.4
The Southwest As Seen By Females

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
sites, San Diego State University, the University of Nevada, Las Vegas, and Texas Tech University, are located within the domain, thus these were added to the twelve in the sphere for a total of fifteen in this group of non-core Southwest (the transition from the core to the non-Southwest). This group is comprised of the three sites in California, the two in Nevada, the three in Utah, the two in Colorado, the two in Oklahoma, and the remaining three in Texas. The remaining eleven sites comprise the third group of non-Southwestern sites. These are the two in Kansas, the two in Missouri, and the single sites in Arkansas, Louisiana, Washington, Ohio, North Carolina, Massachusetts, and Newfoundland.

The map from the core location group (Figure 3.5) has the smallest core area of the three location groups, while that from the domain and sphere location group (Figure 3.6) has the largest. The map from the non-Southwestern location group (Figure 3.7) includes the El Paso area of West Texas, and falls between the former two. In all three cases the entireties of Arizona and New Mexico are included in the core. Beyond these two states, the core group included nothing else, while the domain and sphere group, which is 33.4% Texan, included a much larger part of West Texas than did the non-Southwestern group.
Figure 3.5
The Southwest As Seen By The Core

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
Figure 3.6
The Southwest As Seen By The Domain And Sphere

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
Figure 3.7
The Southwest As Seen By The Non-Southwest

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
With the domain, again the domain and sphere group (Figure 3.6) appears the most different. In California, Nevada, and Utah they have a much smaller domain than the other two groups, which look very similar. The core group (Figure 3.5) included slightly more of Colorado, but slightly less of Texas.

The biggest differences between Figures 3.5, 3.6, and 3.7 appear to be in the sphere of Southwestern influence. While all three complete Texas, the group from the core almost completely ignored Oklahoma while the two other groups included most of the state. The domain and sphere group (which includes Coloradans) included only half of Colorado, while the core included it in its entirety. The map from the non-Southwest group resembles the composite (Figure 3.1) in terms of the sphere in Colorado. Utah, Nevada, and California are completed by the sphere on both the core group map and the non-Southwest group map. The domain and sphere group, on the other hand, excluded the northern parts of the three states (which could be related to the fact that approximately 36% of the group is from sites in northern Colorado, Utah, and Nevada).

Race/Ethnicity and Mapping the Southwest

While the maps of the males and females seem somewhat similar, and those of the three location groups seem less
so, the maps of the five race/ethnic groups appear to be very different from one another. There appear to be such large differences that no one resembles any other. The maps are African American (Figure 3.8), Anglo American (Figure 3.9), Asian American (Figure 3.10), Hispanic (Figure 3.11), and Native American (Figure 3.12).

While all five groups include the entireties of Arizona and New Mexico in the core, only three of the five included any part of Texas. All three included much larger parts of West Texas than the composite (Figure 3.1), with the Hispanics (Figure 3.11) extending it more to the east than the African Americans (Figure 3.8), who extended it more to the east than did the Anglo Americans (Figure 3.9). The two remaining groups included part of California in the core. The Asian Americans (Figure 3.10) included a much larger area than did the Native Americans (Figure 3.12), who included only a very small area.

The domains of the five are even more dissimilar than are the cores. Both the African Americans and the Hispanics (56.9% of whom are Texans) included the remainder of Texas, with no sphere to the east. The three other groups' domain in Texas resemble that of the composite (Figure 3.1). In Colorado the African Americans have no domain, while the four other groups have only small areas (with the Native Americans having the largest such area).
Figure 3.8
The Southwest As Seen By African Americans

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
Figure 3.9
The Southwest As Seen By Anglo Americans

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
Figure 3.10
The Southwest As Seen By Asian Americans

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
Figure 3.11
The Southwest As Seen By Hispanic Americans

Source: Calculated by Researcher.
Figure 3.12
The Southwest As Seen By Native Americans

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The domain in Utah is a thin strip on both the African American and Hispanic maps, and is a slightly larger area on the Anglo American map. Both the Asian Americans and the Native Americans extend the domain well into northern Utah, with the Asian Americans going all the way to the northern border to the west. The African Americans included only a small part of Nevada in the domain, with both the Anglo Americans and Hispanics including a slightly larger area. The Native Americans include the southern half of the state and the Asian Americans, by including the entire state, are at the far end of the spectrum from the African Americans.

In California the African Americans also have the smallest area of domain, but the domains of the Anglo Americans and Hispanics are only slightly larger. Both the Asian Americans (25% of whom are Californians and 36.2% of whom are Washingtonians) and the Native Americans include the southern half of the state in the domain.

As both the African Americans and Hispanics completed Texas with the domain, neither included any of Texas in the sphere. The remaining three groups completed Texas with the sphere. The African Americans included all of Oklahoma in the sphere, but the four other groups included only approximately half of the state. The Asian Americans and Native Americans completed Colorado with the sphere, the other three groups left out only small parts.
Only the African Americans did not complete Utah with the sphere. The Anglo Americans and Hispanics completed the state with large areas of sphere, while the two others did so with smaller areas as they had filled in most of the state with domain. With Nevada the African Americans were, again, the only group not to completely include the state in this Southwest. All of the others, except for the Asian Americans who filled the state with the domain, completely included the state. In California the Anglo Americans joined the African Americans in not completing the state with the sphere. There, thus, appear to be rather large differences among these group maps.

Analyzing the Maps

It is difficult to examine such maps empirically, as has been done thus far, as each part of the region (i.e., the core, the domain, the sphere, the non-Southwest) encompasses a range of inclusion of twenty-five percentage points. In the case of the composite map (Figure 3.1) a cell in West Texas was included by 74.7% of the respondents (1,524 of 2,039), placing it in the domain along with cells included by only 50% (1,019 of 2,039). Another cell in West Texas which is adjacent to this cell's southwest corner was included by 76.9% of the respondents (1,568 of 2,039) and is in the core. Simply looking at the map makes it appear that
this West Texas cell, by its grouping, is more similar to the cells included by only 50% of the respondents than it is to the adjacent cell included by 76.9% of the respondents, yet this is not the case. The maps are generalizations which help to display the data visually, but they mask detail.

It was necessary, therefore, to move beyond simply looking at the maps by examining them to see if there are statistically significant differences. To accomplish this, certain cells were selected to test via a chi-square test of significance. The cells selected are those in which the cities identified by question four of the questionnaire are located, plus the addition of four others selected to provide better coverage of the Southwest of Figure 3.1.

These cities, which were identified either in the total survey or by one of the ten groups at a rate of at least 5% and are discussed in reference to question four below, are Phoenix, Santa Fe, Tucson, El Paso, Albuquerque, Las Vegas, Dallas, Flagstaff, Las Cruces, Los Angeles, San Antonio, San Diego, and San Francisco. In addition, the cells containing Oklahoma City, Denver, Salt Lake City, and Reno were selected. The original thirteen include three each in Arizona, New Mexico, Texas, and California, plus Las Vegas. This ignores the Southwestern tier of states to the north in Figure 3.1, thus the additional selection of one each in
Oklahoma, Colorado, and Utah. Although Las Vegas was already included, Reno was added to the list because of Las Vegas's location in the southern tip of the state (and proximity to Arizona).

1. Gender

Chi-square tests were conducted on the males vs. females for all of the seventeen cities' locations. This was accomplished by comparing the number of males who included each of the seventeen cells and those who did not with the number of females who included each cell and those who did not. This is the method used throughout the questionnaire, except for question two which has a different type of data. The results of the significance tests are displayed in Table 3.1.

For the seven cells (cities) selected for analysis from the core of Figure 3.1, there are no significant differences at the 0.05 level between the male and female responses. Of the four domain cells selected two are not significantly different at the 0.05 level and two are. Four of the six cells selected in the sphere show significant differences at the 0.05.

There are, therefore, significant differences in Figures 3.3 and 3.4 which are not readily apparent by simply viewing them. In the seven cells analyzed from the core
Table 3.1
Gender and Maps

<table>
<thead>
<tr>
<th></th>
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<th>Females %</th>
<th>chi²</th>
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<td>94.96</td>
<td>95.87</td>
<td>0.964</td>
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<td>El Paso</td>
<td>81.50</td>
<td>80.77</td>
<td>0.178</td>
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<td>97.23</td>
<td>96.72</td>
<td>0.446</td>
</tr>
<tr>
<td>Las Cruces</td>
<td>95.79</td>
<td>96.72</td>
<td>1.227</td>
</tr>
<tr>
<td>Phoenix</td>
<td>97.33</td>
<td>97.19</td>
<td>0.038</td>
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<tr>
<td>Santa Fe</td>
<td>93.22</td>
<td>94.09</td>
<td>0.654</td>
</tr>
<tr>
<td>Tucson</td>
<td>98.15</td>
<td>97.28</td>
<td>1.712</td>
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<tr>
<td><strong>Domain Cities</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>67.45</td>
<td>3.993</td>
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<tr>
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<tr>
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<td>56.75</td>
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<td>San Diego</td>
<td>60.53</td>
<td>60.41</td>
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<td><strong>Sphere Cities</strong></td>
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<tr>
<td>Dallas</td>
<td>41.93</td>
<td>49.62</td>
<td>12.120</td>
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<tr>
<td>Denver</td>
<td>29.50</td>
<td>32.46</td>
<td>2.804</td>
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<td>Oklahoma City</td>
<td>24.56</td>
<td>28.71</td>
<td>4.457</td>
</tr>
<tr>
<td>Reno</td>
<td>36.57</td>
<td>34.80</td>
<td>5.801</td>
</tr>
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<td>35.56</td>
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<td>3.197</td>
</tr>
<tr>
<td>San Francisco</td>
<td>32.79</td>
<td>37.05</td>
<td>4.072</td>
</tr>
</tbody>
</table>

Chi-square values in bold are significant at 0.05. The critical value with 1 degree of freedom is 3.84.
there are no significant differences, the males and females agree on the core. There are some significant differences in the domain cells tested, with two of the four displaying such. In the sphere there were differences in four of six cells analyzed. Overall, however, there are no significant differences in eleven of the seventeen cells.

2. Location

Chi-square tests were also conducted on the core vs. domain and sphere vs. non-Southwest groups for all of the seventeen cities' locations. This was accomplished in the same manner as with gender. The results of the tests are displayed in Table 3.2.

In this case there are significant differences at the 0.05 level for some cells in the core. Only three cells, both in the core and overall, do not display significant differences among the three location groups. For the fourteen other cells location is a significant factor in inclusion on the map. Overall, location is a more significant factor in one's view of the Southwest than is gender.

3. Race/Ethnicity

The results of the significance tests conducted on the race/ethnicity group are displayed in Table 3.3. With
<table>
<thead>
<tr>
<th>Table 3.2</th>
<th>Location and Maps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Cities</strong></td>
<td></td>
</tr>
<tr>
<td>Albuquerque</td>
<td>97.64</td>
</tr>
<tr>
<td>El Paso</td>
<td>74.70</td>
</tr>
<tr>
<td>Flagstaff</td>
<td>98.11</td>
</tr>
<tr>
<td>Las Cruces</td>
<td>98.35</td>
</tr>
<tr>
<td>Phoenix</td>
<td>98.83</td>
</tr>
<tr>
<td>Santa Fe</td>
<td>95.04</td>
</tr>
<tr>
<td>Tucson</td>
<td>99.29</td>
</tr>
<tr>
<td><strong>Domain Cities</strong></td>
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</tr>
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<td>Las Vegas</td>
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<td>Los Angeles</td>
<td>57.45</td>
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<td>San Antonio</td>
<td>47.04</td>
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<td>San Diego</td>
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<td><strong>Sphere Cities</strong></td>
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<tr>
<td>Dallas</td>
<td>40.19</td>
</tr>
<tr>
<td>Denver</td>
<td>41.61</td>
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<td>Oklahoma City</td>
<td>17.26</td>
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<tr>
<td>Reno</td>
<td>39.95</td>
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<tr>
<td>Salt Lake City</td>
<td>46.10</td>
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<tr>
<td>San Francisco</td>
<td>38.77</td>
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</table>

Chi-square values in **bold** are significant at 0.05. The critical value with 2 degrees of freedom is 5.99.
Table 3.3

Race/Ethnicity and Maps

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<thead>
<tr>
<th>City</th>
<th>Afr Am</th>
<th>Ang Am</th>
<th>Asn Am</th>
<th>Hispan</th>
<th>Nat Am</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>89.83</td>
<td>97.07</td>
<td>86.92</td>
<td>98.06</td>
<td>90.16</td>
<td>44.586*</td>
</tr>
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<td>El Paso</td>
<td>88.14</td>
<td>83.07</td>
<td>71.96</td>
<td>91.26</td>
<td>64.75</td>
<td>46.873</td>
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<td>97.20</td>
<td>97.09</td>
<td>92.62</td>
<td>28.425*</td>
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<tr>
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<td>91.53</td>
<td>97.74</td>
<td>88.79</td>
<td>99.03</td>
<td>90.16</td>
<td>49.637*</td>
</tr>
<tr>
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<td>88.14</td>
<td>98.19</td>
<td>97.20</td>
<td>97.09</td>
<td>93.44</td>
<td>30.562*</td>
</tr>
<tr>
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<td>95.64</td>
<td>85.98</td>
<td>95.63</td>
<td>87.70</td>
<td>32.883*</td>
</tr>
<tr>
<td>Tucson</td>
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<td>98.65</td>
<td>99.07</td>
<td>98.06</td>
<td>93.44</td>
<td>43.792*</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>79.44</td>
<td>58.74</td>
<td>72.95</td>
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<td>51.94</td>
<td>65.57</td>
<td>18.937</td>
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<td>53.57</td>
<td>50.47</td>
<td>65.05</td>
<td>42.62</td>
<td>19.657</td>
</tr>
<tr>
<td>San Diego</td>
<td>47.46</td>
<td>59.29</td>
<td>72.90</td>
<td>54.37</td>
<td>69.67</td>
<td>18.995</td>
</tr>
<tr>
<td><strong>Sphere Cities</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dallas</td>
<td>57.63</td>
<td>45.30</td>
<td>43.93</td>
<td>57.28</td>
<td>34.43</td>
<td>20.736</td>
</tr>
<tr>
<td>Denver</td>
<td>28.81</td>
<td>29.12</td>
<td>37.38</td>
<td>29.13</td>
<td>42.62</td>
<td>12.307</td>
</tr>
<tr>
<td>Oklahoma City</td>
<td>38.98</td>
<td>26.26</td>
<td>27.10</td>
<td>26.21</td>
<td>27.05</td>
<td>4.709</td>
</tr>
<tr>
<td>Reno</td>
<td>27.12</td>
<td>28.74</td>
<td>52.34</td>
<td>31.55</td>
<td>41.80</td>
<td>32.823</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>38.98</td>
<td>34.91</td>
<td>53.27</td>
<td>31.07</td>
<td>53.28</td>
<td>31.738</td>
</tr>
<tr>
<td>San Francisco</td>
<td>27.12</td>
<td>30.55</td>
<td>50.47</td>
<td>34.47</td>
<td>49.18</td>
<td>33.720</td>
</tr>
</tbody>
</table>

Chi-square values in **bold** are significant at 0.05. The critical value with 4 degrees of freedom is 9.49. *some estimated values are <5, thus chi-square may not be valid.
sixteen of the seventeen cells there are significant differences among the five race/ethnic groups. It is important to note that six of the seven chi-square statistics for the core cities may not be valid because some of the estimated values are less than five because of the small number of some groups (e.g., African Americans). They are included here only because their omission would have left an unfillable gap, but should be viewed with caution.

Overall, the gender group displayed significant differences in six of the seventeen cells, while the location group displayed fourteen and the race/ethnic group sixteen. Also notable is the magnitude of the chi-square statistic, larger values suggest larger differences. The gender group values range from 0.003 to only 12.120, while the location group range from 2.423 to 67.372 and the race/ethnic group range from 4.709 to 49.637. These data suggest that race/ethnicity may play a slightly greater role in one's view of the location of the region than does location, and both play a much greater role than does gender.

The Map of the Vernacular Southwest

The vernacular Southwest, as defined here, is rooted in Arizona and New Mexico. Other states included in the region are Texas, California, Nevada, Utah, Colorado, and about
half of Oklahoma. Beyond these eight states and southwestern Kansas, there is consensus that nothing else is even remotely in the Southwest.

There is little comparative difference between the maps of the males and the females. The greatest differences among the three sets of maps are found with the race/ethnicity groups, followed by the location and then the gender groups. Thus, race/ethnicity may be more important in influencing one's definition of the location of the Southwest than is location, and both are probably more important in influencing one's definition than is gender.
IV. DEFINING THE SOUTHWEST: RESULTS FROM THE QUESTIONNAIRE

Results from the questionnaire are presented below, in many cases the results were as expected. In a few other cases, however, expected results did not materialize. For the most part, results are not surprising as they reflect both what were believed to be popularly held beliefs (the vernacular) and beliefs of academicians (the professional) concerned with the Southwest.

Question 1: Characteristics

Table 4.1 displays the list of characteristics of the Southwest derived from the first question of the questionnaire. The cutoff point chosen was the 5% inclusion rate, however listed here are those which at least 8.15% of the respondents included. This rate was selected as the threshold because: (1) a threshold of 10% would have resulted in a list of only ten characteristics, while 5% resulted in a list of seventeen, and (2) the list of seventeen included four for which valid significance tests could not be conducted because of expected values of less than five (when cross-tabulated).

Each of the remaining thirteen characteristics, those listed at a rate of at least 8.15%, were subjected to chi-square tests to determine whether there are significant differences with respect to gender, location, and
<table>
<thead>
<tr>
<th>Characteristics of the Southwest</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hot or warm (hot)</td>
<td>1494</td>
<td>66.5</td>
</tr>
<tr>
<td>2. dry or arid (dry)</td>
<td>1374</td>
<td>61.2</td>
</tr>
<tr>
<td>3. desert (des)</td>
<td>1012</td>
<td>45.1</td>
</tr>
<tr>
<td>4. cacti (cac)</td>
<td>322</td>
<td>14.3</td>
</tr>
<tr>
<td>5. Native Americans (NAm)</td>
<td>298</td>
<td>13.3</td>
</tr>
<tr>
<td>6. mountainous (mtn)</td>
<td>297</td>
<td>13.2</td>
</tr>
<tr>
<td>7. Hispanics or Latinos (Hsp)</td>
<td>258</td>
<td>11.5</td>
</tr>
<tr>
<td>8. sunny (sun)</td>
<td>255</td>
<td>11.4</td>
</tr>
<tr>
<td>9. big, open, or vast (big)</td>
<td>242</td>
<td>10.8</td>
</tr>
<tr>
<td>10. scenic or beautiful (sce)</td>
<td>229</td>
<td>10.2</td>
</tr>
<tr>
<td>11. rural/sparse pop. (rur)</td>
<td>195</td>
<td>8.7</td>
</tr>
<tr>
<td>12. flat or plains (flt)</td>
<td>186</td>
<td>8.3</td>
</tr>
<tr>
<td>13. cowboys (cby)</td>
<td>183</td>
<td>8.2</td>
</tr>
</tbody>
</table>
race/ethnicity. As before, the analyses were conducted on a comparison basis (i.e., those who did and did not list each characteristic from each group with the same from the other groups). The four characteristics omitted are humid (6.7%), barren or non-fertile (6.6%), ranching (6.1%), and sandy (5.1%).

Results of the chi-square tests conducted on the gender group are displayed in Table 4.2, the location group in 4.3, and the race/ethnicity group in Table 4.4. There is a distinctive pattern to the significant differences and the three groups. In only one of the thirteen cases was there significant difference between genders. At the other extreme, all thirteen cases resulted in significant differences with the location group, while the race/ethnicity group displayed ten. With gender the chi-square range is from 0.000 to 4.657, with race/ethnicity the range is 3.345 to 49.849, while with location the range is 6.632 to 60.454. In the case of the Southwest, these data suggest that location has more to do with one's view of characteristics of the region than does race or ethnicity, and has far more of an impact than does gender.

**Question 1b: The Most Important Characteristics**

It should come as no surprise, from Table 4.1, that only three characteristics were listed by at least 5% in
<table>
<thead>
<tr>
<th></th>
<th>Male %</th>
<th>Female %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>hot</td>
<td>64.8</td>
<td>68.1</td>
<td>2.717</td>
</tr>
<tr>
<td>dry</td>
<td>60.4</td>
<td>61.9</td>
<td>0.533</td>
</tr>
<tr>
<td>des</td>
<td>44.1</td>
<td>46.0</td>
<td>0.800</td>
</tr>
<tr>
<td>cac</td>
<td>12.7</td>
<td>15.9</td>
<td>4.657</td>
</tr>
<tr>
<td>NAm</td>
<td>12.8</td>
<td>13.7</td>
<td>0.469</td>
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<tr>
<td>mtn</td>
<td>13.2</td>
<td>13.2</td>
<td>0.000</td>
</tr>
<tr>
<td>Hsp</td>
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<td>10.4</td>
<td>3.197</td>
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<tr>
<td>sun</td>
<td>10.2</td>
<td>12.4</td>
<td>2.590</td>
</tr>
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<td>big</td>
<td>10.9</td>
<td>10.7</td>
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<td>10.9</td>
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<td>1.663</td>
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<td>7.8</td>
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<tr>
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<td>0.402</td>
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</table>

Critical value with 1 degree of freedom is 3.84 at 0.05. chi-square values in bold are significant.
<table>
<thead>
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<th>Core</th>
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<th>N-SW</th>
<th>chi²</th>
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<tr>
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<td>63.5</td>
<td>76.3</td>
</tr>
<tr>
<td>dry</td>
<td>48.6</td>
<td>63.1</td>
<td>66.4</td>
</tr>
<tr>
<td>des</td>
<td>55.7</td>
<td>39.9</td>
<td>45.0</td>
</tr>
<tr>
<td>cac</td>
<td>20.5</td>
<td>13.8</td>
<td>11.3</td>
</tr>
<tr>
<td>NAm</td>
<td>14.4</td>
<td>16.4</td>
<td>8.8</td>
</tr>
<tr>
<td>mtn</td>
<td>18.6</td>
<td>12.3</td>
<td>11.0</td>
</tr>
<tr>
<td>Hsp</td>
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<td>13.0</td>
<td>11.5</td>
</tr>
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<td>sun</td>
<td>14.2</td>
<td>8.6</td>
<td>13.0</td>
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<tr>
<td>big</td>
<td>13.4</td>
<td>12.3</td>
<td>7.4</td>
</tr>
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</tr>
<tr>
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<td>5.0</td>
<td>10.5</td>
<td>8.6</td>
</tr>
<tr>
<td>flt</td>
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<td>11.2</td>
<td>8.3</td>
</tr>
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<td>10.2</td>
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</tbody>
</table>

Critical value with 2 degrees of freedom is 5.99 at 0.05. Chi-square values in bold are significant.
## Table 4.4

Southwestern Characteristics and Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Afr Am %</th>
<th>Ang Am %</th>
<th>Asn Am %</th>
<th>Hispan %</th>
<th>Nat Am %</th>
<th>chi^2</th>
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<tbody>
<tr>
<td>hot</td>
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<td>67.9</td>
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<td>63.1</td>
<td>65.4</td>
<td>4.264</td>
</tr>
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<td>51.7</td>
<td>59.6</td>
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<td>49.849</td>
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<td>44.4</td>
<td>15.964</td>
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<td>7.8</td>
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<td>10.5</td>
<td>20.271</td>
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<td>13.7</td>
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<td>10.973</td>
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<td>16.567</td>
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<td>6.0</td>
<td>7.8</td>
<td>24.1</td>
<td>43.335</td>
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</table>

Critical value with 4 degrees of freedom is 9.49 at 0.05.

chi-square values in bold are significant.
response to the second part of the question in which the respondents were asked to circle the characteristic they felt was the single most descriptive. These are displayed in Table 4.5. As was discussed above as a possibility, desert and dry or arid have switched places from the list of seventeen. Dry or arid, which was listed second most often in the survey by 1,374 respondents, or 61.2%, is replaced on this list by desert, which was third on the original list, and was listed by 1,012, or 45.1%. Thus, although more people think of the Southwest as being dry or arid than desert, not as many of them view this as the most important characteristic as do those who listed desert.

These three characteristics have also been subjected to chi-square analyses. The results for the gender group are displayed in Table 4.6, the location group in Table 4.7, and the race/ethnicity group in Table 4.8.

In all three cases there are no significant differences between the genders. With both the location and race/ethnic groups there are significant differences in all three cases, thus both are more important than is gender. As the location group displayed larger chi-square values, their differences may be larger than those of the race/ethnic group.
### Table 4.5

The Most Important Characteristics of the Southwest

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hot or warm</td>
<td>321</td>
<td>14.3</td>
</tr>
<tr>
<td>2. desert</td>
<td>286</td>
<td>12.7</td>
</tr>
<tr>
<td>3. dry or arid</td>
<td>264</td>
<td>11.8</td>
</tr>
</tbody>
</table>

### Table 4.6

Important Southwestern Characteristics and Gender

<table>
<thead>
<tr>
<th></th>
<th>Male %</th>
<th>Female %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>14.5</td>
<td>14.1</td>
<td>0.097</td>
</tr>
<tr>
<td>2.</td>
<td>12.7</td>
<td>12.8</td>
<td>0.010</td>
</tr>
<tr>
<td>3.</td>
<td>11.9</td>
<td>9.6</td>
<td>0.047</td>
</tr>
</tbody>
</table>

Critical value with 1 degree of freedom is 3.84 at 0.05. Chi-square values in bold are significant.

### Table 4.7

Important Southwestern Characteristics and Location

<table>
<thead>
<tr>
<th></th>
<th>Core %</th>
<th>D/S %</th>
<th>N-SW %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>hot</td>
<td>7.5</td>
<td>12.4</td>
<td>20.7</td>
<td>47.333</td>
</tr>
<tr>
<td>des</td>
<td>18.2</td>
<td>12.6</td>
<td>8.4</td>
<td>26.632</td>
</tr>
<tr>
<td>dry</td>
<td>5.8</td>
<td>13.0</td>
<td>12.8</td>
<td>18.640</td>
</tr>
</tbody>
</table>

Critical value with 2 degrees of freedom is 5.99 at 0.05. Chi-square values in bold are significant.
<table>
<thead>
<tr>
<th></th>
<th>Afr Am %</th>
<th>Ang Am %</th>
<th>Asn Am %</th>
<th>Hispan %</th>
<th>Nat Am %</th>
<th>chi^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>hot</td>
<td>20.8</td>
<td>15.3</td>
<td>18.1</td>
<td>6.7</td>
<td>12.8</td>
<td>17.245</td>
</tr>
<tr>
<td>des</td>
<td>2.8</td>
<td>12.9</td>
<td>5.2</td>
<td>20.4</td>
<td>11.3</td>
<td>25.751</td>
</tr>
<tr>
<td>dry</td>
<td>5.6</td>
<td>14.1</td>
<td>5.2</td>
<td>9.4</td>
<td>6.8</td>
<td>18.514</td>
</tr>
</tbody>
</table>

Critical value with 4 degrees of freedom is 9.49 at 0.05.
chi-square values in bold are significant.
Mapping these Characteristics

Several of the thirteen characteristics are easily mappable, and have been in order to compare the maps of the Southwest (Figures 3.1-3.12) with the locations of these characteristics. Those mapped include: (1) hot or warm, (2) dry or arid, (3) desert, (4) Hispanics and Native Americans, (5) sunny, (6) rural or sparsely populated, and (7) cowboys. Those not mapped include several which are fairly ubiquitous. These include (1) cacti, some of which can be found throughout the United States, (2) mountains, and (3) flat or plains. Two others are not easily mappable: (1) big, open, or vast, and (2) scenic or beautiful.

The map depicting hot or warm (Figure 4.1) displays areas where the mean annual temperature exceeds ninety degrees a minimum of sixty, ninety, one-hundred twenty, and one-hundred fifty days. These levels were selected because they were highlighted on the original source map, which was constructed by a climatologist (United States Department of the Interior 1967). The map depicting dry or arid (Figure 4.2) displays areas where the average relative humidity at local noon in July is anywhere from 40% to <20%. These levels were selected because they also were highlighted on the original source map, also constructed by a climatologist (Conway 1963).
Figure 4.1
Mean Annual High Temperature Frequency

Number of Days Where Temperatures Exceed 90 Degrees

150
90
120
60

Figure 4.2
Average Relative Humidity, Local Noon, July

Source: Conway, 1963
Figure 4.3 shows the locations of the four major deserts of the United States (and Mexico) (MacMahon 1985). Figure 4.4 maps both Hispanics and Native Americans. With both groups, the counties and parishes highlighted are those in which at least 25% of the population is either Hispanic or Native American (Strategic Mapping Inc. 1995). Figure 4.5 is similar to Figures 4.1 and 4.2 in that the levels selected are those which were highlighted on the original source map by a climatologist. This map displays the area for which the mean annual total duration of sunshine (sunny) is from three thousand to greater than four thousand hours (Bryson and Hare 1974).

Figure 4.6 displays the counties and parishes in the United States which fall in the lower third in population density (rural or sparsely populated) (Strategic Mapping Inc. 1995). The appears to cover over half of the country because low population density is mainly a western phenomenon, where counties tend to be much larger in area. Finally, Figure 4.7 displays that part of the United States in which rodeos (and cowboys) are considered to be of either major or minor importance (Jordan and Rowntree 1986).

An examination of where these seven characteristics overlap (Figure 4.8) was undertaken in order to compare the location of the mix of them with Figures 3.1-3.12. The area where any two of them overlap is obviously much larger than
Figure 4.3
Deserts of the United States

Figure 4.4
Hispanic and Native American Population, 1994

Figure 4.5
Mean Annual Total Duration of Sunshine
(Hundreds of Hours)

Source: Bryson and Hare, 1974
Figure 4.6
Lowest Population Density Counties and Parishes, 1994

Figure 4.7
Rodeos (and Cowboys) in the United States

Source: Jordan and Rowntree, 1968.
Figure 4.8
The Overlap of Southwestern Characteristics
(Hispanic Population, Native American Population, Low Population Density, High Heat, High Insolation, Low Humidity, Desert Landscapes, and Rodeos)

Number of Characteristics

- 2
- 3
- 4
- 5
- 6
- 7
what anybody would call the Southwest as it includes parts of North Carolina, Wisconsin, and Washington, in addition to the southwestern portion of the country. The area where any three of the seven overlap is smaller as it excludes anything east of central Arkansas, Louisiana, and Kansas to the south, and east of Wyoming or Montana to the north, with small exceptions in the Dakotas. This is essentially a non-coastal Western region, still not the Southwest.

Moving to the area where any four of the seven overlap excludes the eastern half of Texas and most of Oklahoma and Kansas, plus most to the north of California, Utah, Nevada, and Colorado. With the exception of the area in southwestern Idaho and southeastern Oregon which is included, and eastern Texas which is excluded, this is essentially the Southwest of Figure 3.1.

The area where at least five of the characteristics overlap is much smaller and is found principally in Arizona, New Mexico, West Texas, western Oklahoma, southwestern Kansas, southeastern Colorado, southern and western Utah, Nevada, southwestern Idaho, southeastern Oregon, and non-coastal southern California. Moving to the area where at least six overlap includes only parts of Arizona and New Mexico, West Texas, southeastern Colorado, southeastern Utah, small parts of Nevada, southeastern Oregon, and southern California. The area of overlap of all seven is
much smaller than any of the others, and includes two areas in southern Arizona, one larger area in northern Arizona which extends into southeastern Utah, one small area in southern New Mexico, and one larger one which extends into the El Paso area of Texas, and one other small area in West Texas.

The Southwest of these seven characteristics consists, essentially, of Arizona, New Mexico, West Texas, southeastern Utah, western Utah, Nevada, southwestern Idaho, southeastern Oregon, and southern California. Notable among areas of non-inclusion are eastern Texas and Oklahoma, along with Colorado, which displayed little overlap of the characteristics. Comparison with Figures 3.1-3.12 are not precise because of the "fuzzy" nature of Figure 4.8, but are attempted below.

With the exception of the southwestern Idaho and southeastern Oregon area and southwestern Kansas, which are not included on any of Figures 3.1-3.12, Figure 3.1 fairly closely corresponds with Figure 4.8. The heart of both is Arizona, New Mexico, and West Texas, although Figure 4.8 includes southeastern Utah. There is correspondence, however, even in southeastern Utah. In Figure 3.1, the cell with the highest rate of inclusion outside of Arizona, New Mexico, West Texas, the strip of cells in California adjacent to Arizona, and the Las Vegas area, is the cell in
the southeastern corner of Utah. The correspondence in southern California is also apparent with the high rates of inclusion on Figure 3.1. The areas of low inclusion in the eight state Southwest of Figure 3.1 such as northern California, northern Colorado, and eastern Colorado are also areas of low overlap on Figure 4.8. As a group, the respondents seem to be aware of the locations of the characteristics.

Because the males (Figure 3.3) exclude parts of northern California and Colorado, a larger part of Oklahoma, and do not extend the domain as far to the east in Texas, their Southwest somewhat better corresponds to figure 4.8 than does that of the females (Figure 3.4).

The map of the group from the core (Figure 3.5) is less similar to Figure 4.8 than are either of the gender maps as it focuses the core on Arizona and New Mexico. It also includes all of northern Colorado and California in the sphere, and excludes most of Oklahoma. The most striking similarity seems to be the largest area of sphere in eastern Texas of the three groups. The domain and sphere group's map (Figure 3.6) seems more similar to Figure 4.8, although perhaps slightly too much of Oklahoma is included. The group from the non-Southwest (Figure 3.7) seems to have only a few minor deviations from Figure 4.8 also (e.g., too much of Oklahoma and northern California included). Overall, the
three location group maps are more similar than dissimilar to Figure 4.8, although they all fall short in one area or another. The core group (Figure 3.5) seems to stretch the region too far north, the domain and sphere group (Figure 3.6) too far east, and the non-Southwest (Figure 3.7) too far both to the north and east.

The African American map (Figure 3.8) includes far too much of Texas in the domain and Oklahoma in the Southwest to be similar to Figure 4.8. Beyond this deviation in the east, the map seems similar in other areas. The Anglo American map (Figure 3.9) is one of the most similar to Figure 4.8 (63.7% of the total are Anglo Americans). It includes a bit too much of eastern Texas and Oklahoma, but excludes parts of northern Colorado and California. The Asian American map (Figure 3.10) is one of the least similar to Figure 4.8 of the group. Southern California replaces West Texas as one of the more important areas, and the domain of the region is extended far too much to the north. The Hispanic map (Figure 3.11) includes far too much of eastern Texas in the domain to be considered similar in that area, beyond that only the inclusion of northern California is notable. The Native American map (Figure 3.12) is also one of the most similar to Figure 4.8. The area within the core and domain of Figure 3.12 fairly closely corresponds with the area of overlap of at least five characteristics of
Figure 4.8. The only small deviations are the inclusion of northern California and northern Colorado, and perhaps a bit too much of Oklahoma, in the sphere.

Overall Figures 3.1-3.12 fairly well correspond to Figure 4.8. All of the maps focus, more or less, on the eight-state Southwest as first defined in Figure 3.1. There are areas of divergence from Figure 4.8 on all of the group maps, but not all of the groups totally agree on the relative importance of these seven characteristics, although all except the Native Americans agree on these being included at a rate of at least 5%. Less than 5% of the Native Americans, whose map was one of the more similar to Figure 4.8, included either Hispanics or rural or sparsely populated.

Of the thirteen characteristics presented here, seven were deemed non-ubiquitous and mappable. The respondents have, for the most part, displayed that they are aware of the location of the characteristics of the Southwest they deemed important. This suggests that they are not only aware of the existence of the Southwest, but that they know what makes it a unique region and where these Southwestern characteristics may be found. The source of their knowledge is the focus of the next question.
Question 2: Sources of Information

Responses to Question Two, which asked the respondents to indicate how important seven different possible sources of information are in influencing their personal definition of the Southwest, are displayed in Table 4.9. The respondents were asked how important these sources are by rating them on a scale of one to five with one being very unimportant, three being neutral, and five being very important.

Results for each of the groups' responses are displayed in Tables 4.10 (gender), 4.11 (location), and 4.12 (race/ethnicity). The gender group was subjected to an independent group t-test and the location and race/ethnic groups were subjected to an analysis of variance test to determine if significant differences exist.

As with the map and Question One, there is more agreement between the sexes than among the location or race/ethnic groups, with only two significant differences in the list of seven sources. The most significant differences were found with the location group, six, while the race/ethnic group, with four, fell between the two. This is a reversal from the results found with the maps where race/ethnicity displayed the most significant differences, but is consistent with the results from Question One.
### Table 4.9

**Sources of Information**

<table>
<thead>
<tr>
<th>Source</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Travel in the Southwest</td>
<td>3.83</td>
</tr>
<tr>
<td>2. Reading</td>
<td>3.55</td>
</tr>
<tr>
<td>3. Living in the Southwest</td>
<td>3.52</td>
</tr>
<tr>
<td>4. Friends and Relatives</td>
<td>3.44</td>
</tr>
<tr>
<td>5. Television</td>
<td>3.43</td>
</tr>
<tr>
<td>6. Classes in high school or college</td>
<td>3.39</td>
</tr>
<tr>
<td>7. Movies</td>
<td>3.35</td>
</tr>
</tbody>
</table>

### Table 4.10

**Sources of Information and Gender**

<table>
<thead>
<tr>
<th>Source</th>
<th>Males</th>
<th>Females</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>travel</td>
<td>3.811</td>
<td>3.851</td>
<td>0.70</td>
</tr>
<tr>
<td>reading</td>
<td>3.544</td>
<td>3.564</td>
<td>0.47</td>
</tr>
<tr>
<td>living</td>
<td>3.459</td>
<td>3.577</td>
<td>1.70</td>
</tr>
<tr>
<td>friends</td>
<td>3.356</td>
<td>3.515</td>
<td>3.07</td>
</tr>
<tr>
<td>tv</td>
<td>3.438</td>
<td>3.431</td>
<td>-0.17</td>
</tr>
<tr>
<td>classes</td>
<td>3.376</td>
<td>3.397</td>
<td>0.44</td>
</tr>
<tr>
<td>movies</td>
<td>3.366</td>
<td>3.340</td>
<td>-0.55</td>
</tr>
</tbody>
</table>

At the 0.05 level of significance the critical value is 1.645, *t* scores in **bold** are significant.
Table 4.11

Sources of Information and Location

<table>
<thead>
<tr>
<th></th>
<th>Core</th>
<th>D/S</th>
<th>N-SW</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>travel</td>
<td>4.275</td>
<td>4.055</td>
<td>3.293</td>
<td>108.33</td>
</tr>
<tr>
<td>reading</td>
<td>3.491</td>
<td>3.568</td>
<td>3.576</td>
<td>1.20</td>
</tr>
<tr>
<td>living</td>
<td>4.529</td>
<td>3.685</td>
<td>2.712</td>
<td>229.60</td>
</tr>
<tr>
<td>friends</td>
<td>3.640</td>
<td>3.460</td>
<td>3.294</td>
<td>12.17</td>
</tr>
<tr>
<td>tv</td>
<td>3.195</td>
<td>3.372</td>
<td>3.653</td>
<td>29.19</td>
</tr>
<tr>
<td>classes</td>
<td>3.456</td>
<td>3.429</td>
<td>3.295</td>
<td>4.30</td>
</tr>
<tr>
<td>movies</td>
<td>3.038</td>
<td>3.322</td>
<td>3.575</td>
<td>34.49</td>
</tr>
</tbody>
</table>

At the 0.05 level of significance the critical value is 3.0, f scores in bold are significant.
<table>
<thead>
<tr>
<th>Sources of Information and Race/Ethnicity</th>
<th>Afr Am</th>
<th>Ang Am</th>
<th>Asn Am</th>
<th>Hispanic</th>
<th>Nat Am</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>travel</td>
<td>3.514</td>
<td>3.875</td>
<td>3.530</td>
<td>4.071</td>
<td>3.842</td>
<td>4.48</td>
</tr>
<tr>
<td>reading</td>
<td>3.583</td>
<td>3.530</td>
<td>3.612</td>
<td>3.608</td>
<td>3.602</td>
<td>0.57</td>
</tr>
<tr>
<td>classes</td>
<td>3.639</td>
<td>3.304</td>
<td>3.509</td>
<td>3.563</td>
<td>3.765</td>
<td>8.79</td>
</tr>
<tr>
<td>movies</td>
<td>3.153</td>
<td>3.352</td>
<td>3.457</td>
<td>3.311</td>
<td>3.391</td>
<td>0.91</td>
</tr>
</tbody>
</table>

At the 0.05 level of significance the critical value is 2.37. *f* scores in bold are significant.
Question 4: Southwestern Cities and Other Places

The fourth question asked the respondents if there are any cities, or other places, which best represent the Southwest. The top five responses are included in Table 4.13. Although nine cities/places were listed by at least 5%, only five are included here because four returned estimated values less than five for the race/ethnic group. Chi-square results are displayed in Table 4.14 for gender, Table 4.15 for location, and Table 4.16 for race/ethnicity.

In this case the gender group displayed significant differences in three of five cases. The magnitude of the chi-square values and range for the gender group (0.706 to 22.912) is much smaller than the others, thus gender may be somewhat less important in the formation of one's view. Although both the location and race/ethnicity groups returned four of six significant differences, the location group's values and range are 2.533 to 96.708 compared to the race/ethnicity group's 6.439 to 51.138. Therefore location may have somewhat more influence on one's views of Southwestern cities and other places than does race/ethnicity, and both are more influential than is gender.

The four cities or other places with response rates of at least 5%, but not subjected to chi-square tests, are Arizona (6.7%), New Mexico (6.5%), Las Vegas (5.8%), and
### Table 4.13

**Southwestern Cities and Other Places**

<table>
<thead>
<tr>
<th>Place</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Phoenix</td>
<td>654</td>
<td>29.1</td>
</tr>
<tr>
<td>2. Santa Fe</td>
<td>430</td>
<td>19.2</td>
</tr>
<tr>
<td>3. Tucson</td>
<td>267</td>
<td>11.9</td>
</tr>
<tr>
<td>4. El Paso</td>
<td>242</td>
<td>10.8</td>
</tr>
<tr>
<td>5. Albuquerque</td>
<td>232</td>
<td>10.3</td>
</tr>
</tbody>
</table>

### Table 4.14

**Southwestern Cities and Other Places and Gender**

<table>
<thead>
<tr>
<th>Place</th>
<th>Males %</th>
<th>Females %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phx</td>
<td>34.0</td>
<td>24.8</td>
<td><strong>22.912</strong></td>
</tr>
<tr>
<td>SFe</td>
<td>19.9</td>
<td>18.5</td>
<td>0.706</td>
</tr>
<tr>
<td>Tuc</td>
<td>13.0</td>
<td>10.9</td>
<td>2.545</td>
</tr>
<tr>
<td>ElP</td>
<td>12.5</td>
<td>9.2</td>
<td><strong>6.078</strong></td>
</tr>
<tr>
<td>Alb</td>
<td>12.0</td>
<td>8.8</td>
<td><strong>6.134</strong></td>
</tr>
</tbody>
</table>

Critical value with 1 degree of freedom is 3.84 at 0.05. Chi-square values in bold are significant.

### Table 4.15

**Southwestern Cities and Other Places and Location**

<table>
<thead>
<tr>
<th>Place</th>
<th>Core %</th>
<th>D/S %</th>
<th>N-SW %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phx</td>
<td>29.2</td>
<td>30.4</td>
<td>26.9</td>
<td>2.533</td>
</tr>
<tr>
<td>SFe</td>
<td>22.8</td>
<td>25.5</td>
<td>9.1</td>
<td><strong>81.057</strong></td>
</tr>
<tr>
<td>Tuc</td>
<td>24.4</td>
<td>10.1</td>
<td>6.5</td>
<td><strong>96.708</strong></td>
</tr>
<tr>
<td>ElP</td>
<td>16.7</td>
<td>14.0</td>
<td>3.3</td>
<td><strong>75.168</strong></td>
</tr>
<tr>
<td>Alb</td>
<td>12.1</td>
<td>13.0</td>
<td>5.8</td>
<td><strong>27.317</strong></td>
</tr>
</tbody>
</table>

Critical value with 2 degrees of freedom is 5.99 at 0.05. Chi-square values in bold are significant.
### Table 4.16

Southwestern Cities and Other Places and Race/Ethnicity

<table>
<thead>
<tr>
<th>Place</th>
<th>Afr Am</th>
<th>Ang Am</th>
<th>Asn Am</th>
<th>Hispan</th>
<th>Nat Am</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phx</td>
<td>22.2</td>
<td>32.8</td>
<td>28.4</td>
<td>23.9</td>
<td>21.8</td>
<td>15.940</td>
</tr>
<tr>
<td>SFe</td>
<td>5.6</td>
<td>22.2</td>
<td>9.5</td>
<td>24.3</td>
<td>9.0</td>
<td>34.252</td>
</tr>
<tr>
<td>Tuc</td>
<td>4.2</td>
<td>12.5</td>
<td>12.9</td>
<td>14.9</td>
<td>10.5</td>
<td>6.439</td>
</tr>
<tr>
<td>ElP</td>
<td>12.5</td>
<td>10.8</td>
<td>6.0</td>
<td>23.5</td>
<td>2.3</td>
<td>51.138</td>
</tr>
<tr>
<td>Alb</td>
<td>6.9</td>
<td>12.7</td>
<td>7.8</td>
<td>9.0</td>
<td>4.5</td>
<td>13.010</td>
</tr>
</tbody>
</table>

Critical value with 4 degrees of freedom is 9.49 at 0.05.

Chi-square values in **bold** are significant.
Dallas (5.5%). Nine other cities or other places were included at a rate of at least 5% by at least one of the ten groups. These are Flagstaff, the Grand Canyon, Las Cruces, Los Angeles, Monument Valley, San Antonio, San Diego, San Francisco, and Texas. This provides a total of eighteen Southwestern cities and other places. Thirteen of the eighteen are cities (and are the cities whose locations (cells) were used to test the groups' maps for significant differences). The thirteen cities, two places, and three states are displayed in Figure 4.9. The core of this place-defined region is Arizona. In addition to the state itself, two places and three cities were included by at least one group at a rate of at least 5%. New Mexico and Texas, in addition to being listed, are next with three cities each. This leaves three cities in California, which was not listed itself, and one in Nevada, which was also not listed.

All of these cities and places fall within the Southwest as defined in Figure 3.1. Eleven are in the core, three are well within the domain, one is on the fringe of the domain, two are in the sphere, and one encompasses all three areas. These cities and other places all fall within five of the eight Southwestern states of Figure 3.1.
Figure 4.9

Southwestern Cities and Other Places
Question 5: Symbols of the Southwest

Question Five asked the respondents if there is anything which stands as a symbol of the Southwest. Only two responses are included in Table 4.17, although three symbols were included by at least 5% of the respondents, because one returned estimated values less than five for the race/ethnic group. Chi-square results are given in Table 4.18 for gender, Table 4.19 for location, and Table 4.20 for race/ethnicity.

In this final case there are no significant differences with the gender group for either symbol and one each for the location and race/ethnic groups. An examination of the magnitude and ranges of the statistics indicate that race/ethnicity may be more of a factor than is location in the determination of symbols of the Southwest.

The symbol included by at least 5% of the respondents but excluded from analysis is the cowboy, which was included by 5.2%. In addition, three other symbols were included by at least one of the ten groups at a rate of at least 5%. The three are the sun (5.8% of the core and 6.9% of Asian Americans), Native Americans (5.0% of the core, 5.1% of Hispanics, and 6.0% of Native Americans), and the Grand Canyon (5.2% of males).

Deserts have been presented previously (Figure 4.3), and are found primarily in the eight state Southwest of
### Table 4.17
Symbols of the Southwest

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>cacti</td>
<td>609*</td>
<td>27.1</td>
</tr>
<tr>
<td>desert</td>
<td>215</td>
<td>9.6</td>
</tr>
</tbody>
</table>

*includes 543 cacti and 66 saguaro.

### Table 4.18
Symbols of the Southwest and Gender

<table>
<thead>
<tr>
<th></th>
<th>Males %</th>
<th>Females %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>cacti</td>
<td>28.7</td>
<td>25.7</td>
<td>2.558</td>
</tr>
<tr>
<td>desert</td>
<td>8.8</td>
<td>10.3</td>
<td>1.350</td>
</tr>
</tbody>
</table>

Critical value with 1 degree of freedom is 3.84 at 0.05. Chi-square values in bold are significant.

### Table 4.19
Symbols of the Southwest and Location

<table>
<thead>
<tr>
<th></th>
<th>Core %</th>
<th>D/S %</th>
<th>N-SW %</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>cacti</td>
<td>33.0</td>
<td>27.2</td>
<td>23.6</td>
<td>13.456</td>
</tr>
<tr>
<td>desert</td>
<td>10.4</td>
<td>9.3</td>
<td>9.3</td>
<td>0.580</td>
</tr>
</tbody>
</table>

Critical value with 2 degrees of freedom is 5.99 at 0.05. Chi-square values in bold are significant.
Table 4.20
Symbols of the Southwest and Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Afr Am</th>
<th>Ang Am</th>
<th>Asn Am</th>
<th>Hispan</th>
<th>Nat Am</th>
<th>chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>cacti</td>
<td>11.1</td>
<td>30.4</td>
<td>25.9</td>
<td>30.6</td>
<td>15.0</td>
<td>25.943</td>
</tr>
<tr>
<td>desert</td>
<td>9.7</td>
<td>9.9</td>
<td>3.4</td>
<td>10.6</td>
<td>7.5</td>
<td>6.234</td>
</tr>
</tbody>
</table>

Critical value with 4 degrees of freedom is 9.49 at 0.05.
chi-square values in bold are significant.
Figure 3.1. Cowboys have also been presented previously (Figure 4.7), as have been the sun (Figure 4.5), Native Americans (Figure 4.4), and the Grand Canyon (on Figure 4.9). Cowboys (rodeos) are primarily a western phenomenon, the sun (sunny) is primarily a southern (southeastern-southwestern) phenomenon, Native Americans are primarily a North Central and Southwestern phenomenon, and the Grand Canyon is well within the core.

Cacti have not been presented previously because of their near ubiquity (although they are nearly ubiquitous, they are found in much greater concentrations in the southwestern portion of the country). In this case, however, sixty-six of the six-hundred nine respondents who listed cacti specifically listed the saguaro, the only cacti to be specifically mentioned. The natural habitat and location of the saguaro is displayed in Figure 4.10. This is also well within the core as it is found almost exclusively in southern Arizona.

"Postcard" Question

How was all of this displayed in the final, postcard-type, question? A student at Arizona State University described the region as "... hot and dry, very dusty and has many cacti and lizards; however, it also has the most beautiful sunsets and wonderful breezy spring evenings on
Figure 4.10
Location of Saguaro Cacti
(cereus giganteus)

Source: Benson, 1982.
Another from Coconino High School (in Flagstaff) wrote "In some areas the land is very flat/plains with lots of sand and cactus and it is very dry and hot. In other areas there are mountains and pine trees and lots of snow." In both of these Arizona examples many of the characteristics and symbols discovered on the questionnaire are repeated, especially hot, dry, and cacti.

A student from New Mexico State University wrote "Hot & windy here - hellish summers - but long, gorgeous spring, colorful fall - colorful people too! Such a diversity of cultures you can't define or quantify any one group." Another student from the University of New Mexico wrote "Dear _____, The Southwest is beautiful! It is dry, most of it is some type of desert, but when it rains, it pours. The sky is so blue and huge, you feel like you could lose yourself in it. The sunrises & sunsets are unmatched anywhere I've been. There are mountains which hold elk, deer, all kinds of animals. Culturally, it is a mix of Native American, Spanish, and Anglo, with others thrown in as well. There is so much history!" Again, characteristics from the questionnaire, such as hot, dry, desert, and multicultural, were employed in the descriptions of the Southwest.

A final example from the core is that of a student from the University of Texas at El Paso who wrote "The people are
warm and friendly. The climate dry and warm. The Desert (sic) has a beauty all its own. Come experience life where sunsets are a glorious way to end a day." Repeated throughout these core examples are the heat and aridity of the region.

From the domain, and the University of Nevada, Las Vegas, comes "Arid, hot, yet beautiful, in its own way. Independent almost rebellious (sic) spirit of natives. Mountainous sparse (sic) vegetation (sic), large expanses of open area."

From a student at Brigham Young University, in the sphere, "The Southwest is an intermingling of the present with the past. It is influenced by the Hopi and Navajo tribes, Spanish colonialization (sic) and American modernization." From Metropolitan State College of Denver, also in the sphere, comes "The Southwest has an arid climate so it's very dry & dusty. It has both a Mexican and somewhat southern influence. The landscape has both plains and lots of plateaus." Another Colorado example comes from the University of Northern Colorado, "The Southwest is in conjunction with most stereotypes, oppressively (sic) hot and dry in the summer, and pleasant in the winter. There is a great deal of ethnic diversity, with people ranging from European ancestry to Indian (sic) to mestizo. This mixture gives the area a unique flavor and atmosphere that is
unparalleled in the US." These examples from the sphere repeat the themes of hot and dry and multicultural.

From the non-Southwest, where responses were far more sparse, came the following examples. From Pittsburg State University (Kansas): "The Southwest is very dry and hot. Once you get away from civilization there is lots (sic) of desert. The land is scattered with cactus and mountains." A student at Southwest Missouri State University wrote (without internal punctuation), "This is a hot dry desertlike (sic) area with long expanses of boring countryside interspersed with gorgeous scenery, rock formations springing up without warning." A final example comes from a student at Louisiana State University, who wrote, "The temp. is supposedly 110°. Back home, this weather would be unbearable. It is because of the dry climate that makes this weather almost pleasant. Most of the terrain is spread out & uninhabited except in the big cities." In these examples from the sphere the heat and aridity are prevalent, and desert is mentioned in two of the three.

These twelve examples were selected for inclusion because they seemed to best represent the consensus of their respective sites. Themes found throughout these examples are the heat and aridity of the Southwest, along with others such as desert and cacti. For the most part, the
descriptions offered almost exclusively use the seventeen characteristics from the first question. The Southwest is, then, primarily a hot and dry desert.
V. THE VERNACULAR SOUTHWEST

The Southwest as defined in this dissertation is believed to be firmly anchored in the states of Arizona and New Mexico, no other state is identified as being strongly within the region. Only the El Paso area of Texas is also included in the Southwest by at least 75% of the respondents, although this area is included at rates much lower than Arizona and New Mexico. These three, Arizona, New Mexico, and the El Paso area of Texas, are included in the core of this Southwest (Figure 3.1).

Beyond the El Paso area, the western half of Texas is included in the Southwest by at least 50% of the respondents. The highest non-core rates on the map are found adjacent to the domain area of El Paso. Both the core area around El Paso and its adjacent domain make Texas the third most Southwestern state. California is seen as the fourth most Southwestern state, with domain rates adjacent to Arizona only slightly lower than those of Texas. The remainder of the domain is found in southern Nevada, southern Utah, and southern Colorado, with Nevada and Utah seen as more Southwestern than is Colorado. The only other state, or part thereof, seen as Southwestern in the survey is Oklahoma. Only about half of Oklahoma is included, and it is all within the sphere.
"Southwest," then, is a characteristic of the states of Arizona, New Mexico, Texas, California, Nevada, Utah, Colorado, and Oklahoma. Only these eight states are included, and, with the exception of southwestern Kansas, no other place is seen as Southwestern by at least 5% of the respondents. If a 50% agreement is desired then only Arizona, New Mexico, the western half of Texas, and the southern parts of California, Nevada, Utah, and Colorado are included. At 75% it is only the states of Arizona and New Mexico, and the El Paso area of Texas.

Although there are numerous characteristics which make the Southwest unique and set it off from the remainder of the United States, only seventeen were identified by at least 5% of the respondents. Expected responses such as heat, aridity, landscape features, and the tricultural mix, which were drawn from the various sources in the first chapter, are among those listed. Of those listed, three were included at notably greater frequency than the others. According to the respondents the Southwest is hot or warm (66.5%), dry or arid (61.2%), and desert (45.1%). No other characteristics were listed as frequently, and no other characteristics were included by at least 5% of the respondents as the single most important characteristic. Only these three, hot or warm (14.3%), desert (12.7%), and dry or arid (11.8%), were so identified. Several of the
characteristics were mapped (Figures 4.1-4.7). Figure 4.8 indicates that the respondents located the Southwest in much the same general area of the United States as the locations of the characteristics.

The most important source of information in the formation of definitions of the Southwest was identified by the respondents as traveling in the region (3.83 on a scale of 1-5, with 5 the very most important and 3 neutral). Reading (3.55) and living in the Southwest (3.52) were the next most important sources. Friends and relatives (who may either live in the region or have traveled there) (3.44) and television (3.43) were identified as relatively important. The least important sources are classes (3.39) and movies (3.35). Thus, presence, or activity, in the region itself is more important than sources in which the respondents are passive.

Seven cities and two states were identified by at least 5% of the respondents as being representative of the region. Two cities, Phoenix (29.1%) and Santa Fe (19.2%) were listed at notably higher rates than any other. The remainder of the list consists of Tucson (11.9%), El Paso (10.8%), Albuquerque (10.3%), Arizona (6.7%), New Mexico (6.5%), Las Vegas (5.6%), and Dallas (5.5%). Six of the nine are either Arizona or New Mexico or cities in one of the two. Two others, Las Vegas and El Paso, are just beyond Arizona and
New Mexico. Only Dallas is not in or very close to Arizona or New Mexico. Tombstone, which was on the list of expected results, was listed by only 1.2% of the respondents. Monument Valley and the Grand Canyon were also expected, but the former was listed by only 0.6% of the respondents (and 7.5% of the Native Americans) and the latter by 3.9% (and 5.6% of the core and 8.3% of the Native Americans).

Only three symbols, all of which were also included as characteristics, were listed by at least 5% of the respondents. These include cacti (27.1%), desert (9.6%), and cowboys (5.2%). Of those who listed cacti, 10.8% specifically listed the saguaro. Five expected symbols were not listed, these are the Grand Canyon 3.7% (and 5.2% of the males), Monument Valley 0.3%, Four Corners 0.1, the sun 2.7% (and 5.8% of the core and 6.9% of Asian Americans), and mountains 1.0%.

Of the three groups examined, gender had far less correlation with the views of the respondents than did location or race/ethnicity. A total of forty-seven items were subjected to significance tests. Of the forty-seven cases, in only twelve were the views of the males and females significantly different from one another. In addition, the magnitude of the various statistics was routinely much smaller than either of the other groups.
Location had a slightly higher correlation with views than did race/ethnicity. The location group returned forty-one of forty-seven significant differences, and very often the differences were relatively large. With the race/ethnicity group there were thirty-eight significant differences; usually with large differences, but often not as large as those among the location groups.

The apparent small difference between location and race/ethnicity as a factor in one's views of the Southwest may actually be larger. Some of the race/ethnic groups were not evenly disbursed through the three location groups (as is the case in the United States). In this case, however, 52.8% of the African Americans came from non-Southwestern sites, 44.4% came from domain and sphere sites, and only 2.8% came from core sites; 47.9% of the Anglo Americans came from domain and sphere sites, 37.0% came from non-Southwestern sites, and 15.1% came from core sites; 50.9% of the Asian Americans came from the non-Southwest, 40.5% came from domain and sphere sites, and only 8.6% came from core sites; 61.2% of the Hispanics came from core sites, 33.3% came from domain and sphere sites, and only 5.5% came from non-Southwestern sites; and 50.4% of the Native Americans came from core sites, 29.3% came from non-Southwestern sites and 20.3% came from domain and sphere sites.
The only one of the five to not have at least 50% in one of the three locations is the Anglo Americans, although the Native Americans may be a bit better dispersed as their lowest rate in a location is 20.3% (in the domain and sphere). Overall, however, the African Americans and Asian Americans do not come from the core, they primarily come from the non-Southwest or the domain and sphere, and the Hispanics do not come from the non-Southwest, they are strongly from the core. In any event, race/ethnicity is obviously not completely independent of location, thus the difference in their relative importance in one's views of the Southwest is probably larger than was displayed.

Several specific research questions were posed early in the dissertation. To what extent have these been answered by this survey? One of these questioned if those from the core would exclude the Arizona Strip and the Pecos Valley from the region. Figure 3.5 shows that both of these areas were included within the core of the Southwest (i.e., by at least 75% of the respondents from the core). Because, however, the core area on the map actually displays a range of inclusion from a low of 75% to a high of 100%, it is possible that this masks rates in these two areas which may be lower than the remainder of Arizona and New Mexico. This is not the case, however, as the cells located within the Arizona Strip were included by the respondents from the core.
at rates just over 95% and the cells located within the Pecos River Valley were included at rates of approximately 96.7%. While Meinig (1971) states that these two areas should be excluded because they are predominantly Anglo (Mormons in the Arizona Strip and Southern/Texan cattlemen in the Pecos Valley), residents of Arizona, New Mexico, and the El Paso area of Texas, many of whom are from northern Arizona and southern New Mexico, do not see them as any less Southwestern than the remainder of the two states.

Related to this is the question of whether those from the core would define the Southwest as more spatially restrictive. The core area as defined by those from the core (Figure 3.5) does cover a smaller area than that of both the domain and sphere (Figure 3.6) and the non-Southwest (Figure 3.7). Also, those from the core included the eastern extreme of New Mexico, the northern extremes of Arizona and New Mexico, and the western extreme of Arizona at higher rates than did the other two location groups. This indicates, that at a slightly higher rate, those from the core are more sure of Arizona and New Mexico as the core than are those from the other areas. Therefore, those from the core defined the core as a slightly smaller area and at slightly higher rates than did those from the non-core.

The domains of Figures 3.5-3.7 are essentially the same. They are the same size and cover relatively the same
area. In Texas all three groups extended the sphere to the eastern border, while in Oklahoma the core group excluded the vast majority of the state and the two other groups included well over half. Thus, to the east the core group did include a smaller area, but only by the exclusion of Oklahoma. In the north those from the core actually included a much larger part of Colorado, Utah, Nevada, and California than did those from the domain and sphere (many of whom are from these places). Compared with those from the non-Southwest those from the core included a slightly larger area to the north, as those from the non-Southwest excluded the northeastern corner of Colorado.

The Southwest of those from the core, then, has a slightly smaller core with slightly higher rates than the two other location groups. The domains of the three are very similar. There are differences with the sphere, with the core including far less of Oklahoma than either of the other groups and including far more of Colorado, Utah, Nevada, and California than did those from the domain and sphere. The "Southwest" of the core, thus, can not be said to be smaller in area than the "Southwests" of those from the domain and sphere and the non-Southwest, although they are slightly more sure about the core being centered in Arizona and New Mexico than the others. The exclusion of the northern parts of Colorado, Utah, Nevada, and California
by those from the domain and sphere is probably related to the fact that many of the domain and sphere respondents are from the northern parts of these states.

Because of the "fuzzy" nature of Figure 4.8, the fact that all ten groups (Figures 3.3-3.12) anchored the core in Arizona and New Mexico and included all or part of only the eight states, and all returned very similar lists of characteristics, it is virtually impossible to state that any one group better matched the location of the Southwest (as they see it) with the locations of the characteristics of the region they listed. This is the case even though there are significant differences between and among the maps and lists of characteristics of the groups because these significant differences indicate differences in rates of inclusion of what have been identified as Southwestern "universals" (i.e., all display the eight-state region and have virtually the same list of characteristics). All ten groups, thus, were fairly accurate in matching the location of the region with the locations of Southwestern characteristics.

Another research question dealt with the relative importance of the seven sources of information vis-à-vis location. Not surprisingly, and as was expected, the respondents from the core view living in the Southwest as the most important source and travel in the Southwest as the
second most important source. This compares with those from the domain and sphere who listed these same two sources more often than any other, but with travel first and living second, and contrasts with those from the non-Southwest who listed living in the Southwest seventh and travel in the Southwest sixth. Conversely, those from the non-Southwest listed television first and movies third, while those from the domain and sphere and core listed television sixth and movies seventh.

Of the three remaining sources, friends and relatives becomes less important from the core (third) to the domain and sphere (fourth) to the non-Southwest (fifth), while reading becomes more important from the core (fourth) to the domain and sphere (third) to the non-Southwest (second) and classes are relatively more important to those from the non-Southwest (fourth) than to either of the other location groups (both fifth). Primary sources such as living and traveling in the region are seen as much more important to those from the core and domain and sphere than to those from the non-Southwest, and those from the non-Southwest view secondary and tertiary sources such as television and movies as far more important than do those from the two Southwestern areas.

Finally, how well does Figure 3.1 coincide with the Southwesterns of Hale (Figure 1.1), Zelinsky (Figure 1.1),
Meinig, Lavender, Byrkit, and Table 1.1? With both previous definitions of the Southwest as a vernacular region (i.e., Hale and Zelinsky, Figure 1.1) there are areas of agreement, but overall the regions are very different. Hale (1971) includes all of the states of Arizona, New Mexico, Texas, and Oklahoma. All of these are included in the Southwest of Figure 3.1, with the exception of eastern Oklahoma. In addition, Hale completely excludes California, Nevada, Utah, and Colorado, all of which are seen as more Southwestern than Oklahoma in Figure 3.1. There is, thus, agreement on Arizona, New Mexico, and Texas, but Hale's region is much smaller and more eastward.

Zelinsky (1980) included partial states in his region (Figure 1.1), as is the case here. His Southwest, in which the term "Southwest" is the leading regional term, is even smaller than Hale's and excludes over half of Arizona. His Southwest, where the term is the secondary or tertiary term, is much larger, but also does not coincide with Figure 3.1 as it stretches even further eastward than does Hale's and excludes a large portion of northern Arizona (and everything north) from the region.

With both of these previous definitions of the Southwest as a vernacular region, the heart of the region is in Arizona, New Mexico, Texas, and Oklahoma. The former three are viewed as Southwestern in Figure 3.1, but Oklahoma
is seen as less Southwestern than four other states. These states, California, Nevada, Utah, and Colorado are completely excluded by Hale and mostly excluded by Zelinsky (although he completely excludes Utah as does Hale). These Southwesterns are, therefore, more different from Figure 3.1 than similar. They are both east/west oriented regions which stretch more to the east and less to the north than does Figure 3.1.

Meinig's (1971) and Lavender's (1980) Southwesterns are similar to one another in that both are strongly focused on Arizona and New Mexico and contiguous parts of neighboring states (with the exception of the Arizona Strip and the Pecos Valley). These definitions very much resemble the core and domain of Figure 3.1 (except that the Arizona Strip and Pecos Valley are not excluded). Byrkit's (1992) Southwest is somewhat similar to Meinig's and Lavender's, except that he excludes eastern New Mexico. This makes Byrkit's definition "fit" Figure 3.1 better than do either of the vernacular definitions, but not quite as well as those of Meinig or Lavender.

The general agreement found in Table 1.1, which consolidated most of the spatial definitions reviewed in the first chapter, is that New Mexico and Arizona are almost always included, Texas, or some part (western) of it is usually included, (western) Oklahoma is included in about
half of the cases, and the southern parts of Colorado, Utah, Nevada, and California are sometimes included. This coincides well with Figure 3.1 with the top three states and the inclusion of the southern parts of the latter four, but, again, Oklahoma is seen as far less Southwestern in Figure 3.1 than in Table 1.1.

**Research Caveats and Shortcomings**

Numerous obstacles either presented themselves or were created in the process of this survey. The first of which was the lining-up of survey sites. Initially it was hoped that there would be twenty sites represented here. The final total of thirty-five and their disbursement, or lack thereof, is largely due to chance. While there are six sites in Arizona, which represent 12.4% of the total, there are only two (small) New Mexico sites, which represent only 2.7% of the total. Several other attempts were made to secure New Mexico sites, but, unfortunately, all were unsuccessful. Better New Mexico representation may well have resulted in higher rates of inclusion of New Mexico on the map and of its cities on the questionnaire.

After sites at El Paso and Lubbock were secured in Texas, several attempts were made to secure a third in the eastern part of the state. Once it became apparent that this desired site would not be possible, requests were sent
to both College Station and San Marcos. This was done to conserve time as most requests either go unanswered for quite a while or are refused. In this case, however, both agreed to participate; thus the four sites in Texas. This provides Texas with 20.7% of the total which likely "pulled" the region of Figure 3.1 and the list of cities eastward toward Texas.

Difficulties in securing a site in Utah also led to multiple requests for assistance. The first Utah request had gone unanswered for several weeks so two others were sent. Shortly thereafter all three responded favorably. These three sites represent 9.2% of the total and make Utah the third largest state group in the survey (behind Texas and Arizona).

The two sites in Nevada were able to provide only twenty-two respondents (1.0%) who met the criteria for inclusion. This makes Nevada very under-represented in the survey. More Nevadans would very likely have resulted in more of the non-Las Vegas area being seen as less Southwestern, which is the view of these twenty-two.

The basic distributional problem with this survey is that Texas and Utah are over-represented and New Mexico and Nevada are under-represented (based on actual populations). While these may have to some small extent balanced each other out (i.e., Texas with New Mexico and Utah with
Nevada), the results as presented here may well be affected by this maldistribution. It is not believed, however, that a correction of this problem would lead to significantly different results. Fewer Texans would move the core and domain thresholds to the west in Figure 3.1, but would not move them out of the state (Texans included the entire state in the domain and the western half in the core) and would decrease the rates of inclusion for both El Paso and Dallas, but would remove neither from the 5% inclusion list.

In the case of Utah, a smaller group would have had virtually no impact on Figure 3.1 as the map of the Utah respondents is a virtual duplicate of it. In addition, the questionnaire responses from Utah are very similar to the composite results. Thus the over representation from Utah seems to have had only a very small impact.

At the other end of the spectrum, better representation of New Mexico would change Figure 3.1 very little as the New Mexicans included in the survey included Arizona slightly more often than they did their own state. As this was the case with the composite, more New Mexicans would not be expected to change the composite significantly. With the Nevadans, the other under-represented group, it is impossible to state what difference better representation would have had. The group is too small (twenty-two, with
twenty usable maps) to be considered representative of the state to make any extrapolations.

Overall the maldistribution problem is believed to be only a very small factor. Representative distribution (among the states/provinces included), although highly desirable, is simply not possible in research such as this in which the researcher must rely upon the good graces of others. In this case the distribution is the best which was available, and, as stated above, is not believed to have had a significant impact on the composite results.

The maldistribution of the race/ethnicity groups has been discussed previously. As some groups (i.e., all except the Anglo Americans) are not evenly distributed across the country and as the majority of the sites are located in the southwestern part of the country, it is not surprising that Hispanics and Native Americans are over-represented and African Americans and Asian Americans are under-represented. In this survey African Americans are under-represented as they constitute only 3.2% of the survey but approximately 12% of the population of the United States. The Anglo Americans are also under-represented as they represent 63.7% of the survey but approximately 80% of the United States (plus Hispanics who identify themselves as White), Asian Americans at 5.2% are slightly over-represented as they constitute only about 3% of the United States population,
Hispanics at 11.4% are also slightly over-represented as they are only approximately 9% of the United States, and Native Americans are over-represented at 5.9% as they constitute slightly less than 1.0% of the United States population. As with the locational maldistribution, this also is simply the best available.

Several problems related to the questionnaire were discovered during the survey. Two are related to the third question and the final "postcard" question. As both of these questions were primarily exploratory in nature (i.e., were posed with no firm preconceived notions as to potential responses), the "problems" associated with them in no way detract from the dissertation. The third question asked for particular movies, books, authors, television shows, etc. which greatly influenced the respondents' definition. This question resulted in a single response from at least 5% and this response was the generic "western." The postcard-type question also resulted in few responses, especially from non-core sites. Because of the very few responses offered, only twelve were selected above for inclusion. In the future, questions such as these will need to be reformatted or reworded if such information is necessary.

Other questionnaire-related problems surfaced with the definition of one's hometown. Many students listed the city in which they attend school as their hometown, and in many
cases this may have actually been the case. However, in many others it was obviously not. In instances where a student listed the city in which he/she attended school and reported having lived there less than five years, but provided information that he/she had lived in that same state (probably in their "true" hometown) for a total of at least five years he/she was included in the survey. Many others, however, were omitted from the survey who probably would not have been had they not listed the city in which they attend school as their hometown.

Also, because many of the respondents skipped, for some unknown reason, the questions asking if they had ever lived in the Southwest, and if so, where, they were excluded from the dissertation. Also because of the confusion over one's hometown, the question asking if the respondents' hometown is in the Southwest was also excluded (and was also skipped by many respondents).

**Envoi**

The Southwest is found in the states of Arizona, New Mexico, Texas, California, Nevada, Utah, Colorado, and Oklahoma, but is strongly anchored in Arizona and New Mexico. In addition to the very high inclusion rates of Arizona and New Mexico, the most salient point of Figure 3.1
is the low rate of inclusion for Oklahoma. Oklahoma is seen as far less Southwestern than has been previously proposed.

Three characteristics stand out. These three most defining and important characteristics are that the Southwest is hot or warm, dry or arid, and is desert. In addition, the cities of Phoenix and Santa Fe stand out as the best representations of the region. Finally, there are three symbols identified: cacti (the saguaro), desert, and cowboys. The tricultural mix of Meinig (1971) and Lavender (1980) was not refuted here as important in defining the region as both Hispanics and Native Americans were among the top seven characteristics listed (and both were listed by at least 11.5%). In addition, 5% or more of the females, those from the core, and Hispanics listed multicultural.

Sources of information which require active participation such as travel or living in the Southwest are seen as more important than more passive sources such as television and movies. Gender plays only a minor role in the formation of one's view of the Southwest relative to one's location and race/ethnicity. Location plays a slightly greater role than does race/ethnicity, and the difference may be greater than slight as race/ethnicity is fairly closely tied to location.

This Southwest is not spatially similar to the two previous vernacular definitions of the Southwest offered.
It is the Southwest of 2,245 respondents and not a handful of "experts" or telephone directories, and may possibly be more reflective of the views of the United States population at large. This Southwest is comparable to definitions offered by Southwestern scholars such as Meinig, Lavender, and Byrkit if one considers only the core and domain of Figure 3.1, which includes Arizona and New Mexico and parts of contiguous states.

This Southwest, however, is different in nature from Hale's and Zelinsky's because it focuses on the Southwest and is based on the definitions of a large group of respondents. It is also different in nature from Meinig's, Lavender's, and Byrkit's (and others') because they defined the region as a cultural region based on a predetermined set of criteria. All of these, examined together, provide a more comprehensive view of the region.

In 1971 Hale found the strongest regional affiliation in the country to be in Arizona and New Mexico with the Southwest and in Washington and Oregon with the Northwest. In 1995 residents of Arizona and New Mexico, once again, displayed a strong regional affiliation with the Southwest. This contradicts Meinig (1971) and Byrkit (1992) who assert that the Southwest is blurred on the map. The region has a very strong core in Arizona and New Mexico.
APPENDIX A: INSTRUCTIONS, MAP, AND QUESTIONNAIRE
Please read the following instructions to your class:

This is part of a nationwide study of regions of the US. One region of the United States is the Southwest. On the US outline map please indicate where you believe the Southwest is located by outlining that area. Then please answer the questions about the Southwest on the second page. Please do not separate the map from the questionnaire, it is important that your map remain attached to your questionnaire. You will have approximately 15-20 minutes to complete the exercise. Thank you for your cooperation.
SPACE AND PLACE OF THE VERNACULAR SOUTHWEST QUESTIONNAIRE

1. List up to five words which you feel are most descriptive of the Southwest.

1.
2.
3.
4.
5.

Of these, please circle the number of the one you feel is the single most descriptive.

2. How important are the following factors in influencing your personal definition of the Southwest, with 5 as very important, 3 as neutral, and 1 as very unimportant? Please circle only one response for each factor.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readings (books, magazines, newspapers, etc...)</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Classes in high school or college</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Living in the Southwest</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Travel in the Southwest</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Movies</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Television (PBS, news, cartoons, sitcoms, commercials, cable, etc...)</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Friends &amp; Relatives</td>
<td>5 4</td>
<td>3 2 1</td>
</tr>
</tbody>
</table>

3. Are there particular movies, books, authors, television shows, etc... which greatly influenced your definition? If so, what are they?

4. Are there particular cities, or other places, which you feel best represent the Southwest? If so, what are they?

5. Is there anything which stands as a symbol of the Southwest. If so, what?
6. Age ___________, Sex _______________.
Race/ethnicity, Please circle one:
African American, Anglo American, Asian American, Hispanic - Spanish or Mexican origin, Native American, Other.
What is your present hometown and state or country? _______.
How long have you lived there? Years _______ Months _______.
Have you ever lived in the Southwest? _______.
If so, where? ________________.
Is your hometown in the Southwest? _______.

7. How would you describe the Southwest on a postcard to someone who has never been here/there?
APPENDIX B: SITES, COLLABORATORS, AND NUMBERS
1. Arizona State University, Mr. John Harner
2. Brigham Young University, Dr. Dale Stevens
3. California State University, Fresno, Dr. James Kus
4. Coconino High School, Ms. Charlotte Madden
5. East Carolina University, Mr. Scott Wade
6. Kansas State University, Dr. Doug Goodin
7. Kent State University, Mr. David Chipman
8. Louisiana State University, Dr. Kent Mathewson
9. Memorial University of Newfoundland, Dr. Joyce Shawyer
10. Metropolitan State College (Denver), Dr. Roberta Smilnak
11. Monument Valley High School, Mr. Matt Nichols
12. New Mexico State University, Dr. Robert Czerniak
13. Northern Arizona University, Dr. Carolyn Daugherty
14. Oklahoma State University, Dr. George Carney
15. Pittsburg State University, Dr. William Allen
16. San Diego State University, Dr. Doug Stow
17. San Jose State University, Dr. David Schwarz
18. Southwest Missouri State University, Mr. John Fohn
19. Southwest Texas State University, Dr. Fred Day
20. Sun City, Mr. Lloyd Gau
21. Texas A&M University, Dr. Jonathan Smith
22. Texas Tech University, Dr. Claud Davidson
23. University of Arizona, Dr. James Sell
24. University of Central Arkansas, Dr. Jeff Allender
25. University of Massachusetts, Dr. Richard Wilkie
26. University of Missouri-Columbia, Mr. Larry Brown
27. University of Nevada, Dr. Paul Stairs
28. University of Nevada, Las Vegas, Dr. Wesley Roehl
29. University of New Mexico, Dr. Brad Cullen
30. University of Northern Colorado, Dr. John Dietz
31. University of Oklahoma, Dr. Richard Nostrand
32. University of Texas at El Paso, Dr. Robert Schmidt
33. University of Utah, Dr. George Hepner
34. University of Washington, Dr. Wilbur Zelinsky
35. Utah State University, Dr. Ted Alsop
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<th># Used</th>
<th># Maps</th>
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<td>25</td>
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<tr>
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<td>232</td>
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<td>50</td>
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<td>2245</td>
<td>2039</td>
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* collaborator copied sample and distributed.
The 2,245 respondents are:

- 40 (1.8%) are African American females
- 32 (1.4%) are African American males
- 72 (3.2%) are African American
- 723 (32.2%) are Anglo American females
- 706 (31.4%) are Anglo American males
- 1,429 (63.7%) are Anglo American
- 57 (2.5%) are Asian American females
- 59 (2.6%) are Asian American males
- 116 (5.2%) are Asian American
- 158 (7.0%) are Hispanic (80 from UTEP) females
- 97 (4.3%) are Hispanic males
- 255 (11.4%) are Hispanic
- 74 (3.3%) are Native American females
- 59 (2.6%) are Native American males
- 133 (5.9%) are Native American
- 127 (5.7%) are "other" or no response females
- 113 (5.0%) are "other" or no response males
- 240 (10.7%) are "other" or no response
- 1,179 (52.5%) are females
- 1,066 (47.5%) are males

The 2,039 respondents whose maps are included are:

- 33 (1.6%) are African American females
- 26 (1.3%) are African American males
- 59 (2.9%) are African American
- 678 (33.3%) are Anglo American females
- 651 (31.9%) are Anglo American males
- 1,329 (65.2%) are Anglo American
- 52 (2.6%) are Asian American females
- 55 (2.7%) are Asian American males
- 107 (5.2%) are Asian American
- 121 (5.9%) are Hispanic females
- 85 (4.2%) are Hispanic males
- 206 (10.1%) are Hispanic
- 66 (3.2%) are Native American females
- 56 (2.7%) are Native American males
- 122 (6.0%) are Native American
- 116 (5.7%) are other females
- 100 (4.9%) are other males
- 216 (10.6%) are other
- 1,066 (52.3%) are females
- 973 (47.7%) are males
APPENDIX C: THE SOUTHWEST AS SEEN FROM THE THIRTY-FIVE SITES AND FROM THE TEN MULTIPLE-SITE STATES
The Southwest As Seen From Arizona
(Composite)

% Inclusion

> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arizona
(Arizona State University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arizona
(Northern Arizona University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arizona
(University of Arizona)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arizona
(Coconino High School)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arizona

(Monument Valley High School)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arizona
(Sun City)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From New Mexico
(Composite)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From New Mexico
(New Mexico State University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From New Mexico
(University of New Mexico)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Texas
(Composite)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Texas
(Texas A&M University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Texas
(Texas Tech University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Texas
(University of Texas at El Paso)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From California
(Composite)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From California
(California State University, Fresno)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From California
(San Diego State University)

% Inclusion
> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From California
(San Jose State University)

% Inclusion
> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From Nevada
(Composite)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Nevada
(University of Nevada, Las Vegas)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Utah

(Composite)

% Inclusion

> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From Utah

(Brigham Young University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Utah
(University of Utah)

% Inclusion
> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From Utah
(Utah State University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Colorado
(Composite)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Colorado
(Metropolitan State College of Denver)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Colorado
(University of Northern Colorado)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Oklahoma
(Composite)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Oklahoma
(Oklahoma State University)

Source: Calculated by Researcher.
The Southwest As Seen From Kansas
(Composite)

% Inclusion

> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From Kansas
(Kansas State University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Kansas
(Pittsburg State University)
The Southwest As Seen From Missouri
(Southwest Missouri State University)
The Southwest As Seen From Missouri
(University of Missouri - Columbia)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Arkansas
(University of Central Arkansas)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Louisiana

(Louisiana State University)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Washington

(University of Washington)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Ohio
(Kent State University)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From North Carolina

(East Carolina University)

% Inclusion

- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
The Southwest As Seen From Massachusetts
(University of Massachusetts)

% Inclusion

> 75%
> 50%
> 25%

Source: Calculated by Researcher.
The Southwest As Seen From Newfoundland

(Memorial University of Newfoundland)

% Inclusion
- > 75%
- > 50%
- > 25%

Source: Calculated by Researcher.
REFERENCES


