regional interaction, migration,
and transformation

western pueblo identities

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Dedicated to the memory of John Graham Deeley Duff, my younger brother, whose time among us was all too brief.

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culture areas were generally interpreted in tribal terms in the anthropology of the day.

Continued documentation of chronological and spatial variability made evident the need for an improved system. Kidder's districts were unworkably large while the Gladwins' smaller branches were confused by assumptions associated with the evolutionary relationships of roots. Harold Colton (1939) attempted to provide a coherent time-space framework conceptually capable of accommodating and organizing the ever-increasing observed variation in material culture. Influenced by the McKern Classification (McKern 1939; Willey and Sabloff 1980:106), Colton simplified the Gladwins' system by beginning with major culture areas (Hohokam, Mogollon, Anasazi, and Patayan), then moving to branches and foci. Branches, ideally defined using several categories of material culture, were basically coextensive with ceramic ware distributions, and foci were spatial variants within a shared ware tradition. Colton (1939:71) thought of a branch "as an Indian tribe occupying over a long period of time, an area where we can trace a continuity of development through a series of foci."

Although multiple material culture traits were to be used in their definition, districts, or branches, were largely defined by the distribution of a single artifact class: ceramics. Colton's revision of the Gladwins' system has become the basic framework of contemporary research, and branches are something we all recognize today as spatial referents (for example, Mesa Verde). The spatial manifestation of a branch was linked with social and organizational developments, completing the process, begun by Kidder and expanded by the Gladwins, of equating classificatory constructions with bounded social groupings.

Branches have become the units frequently referred to as "regions," and most researchers can (and do) associate particular cultural developments with these spatial referents. Many archaeologists conceptualize regions in social terms similar to these early definitions. Regions, defined by the bounded distribution of one or more material culture traits, are frequently assumed to correspond to areas within which interaction was concentrated (e.g., Braun and Plog 1982) and where local populations experienced similar events and possessed a shared sense of history. Although it is recognized that regions have some formal social properties, explicit statements about integration (economic, social, ceremonial, or political) or "interaction" are usually lacking. In short, many archaeologists ascribe "tribal" or "ethnic" status to regional distributions of ceramics and settlements, and, consciously or not, interpret these distributions assuming varying degrees of internal homogeneity. Using artifacts as we do, archaeologists tend to envision boundaries as materially marked when they may have been socially fluid. It is against this background that I question the appropriateness of equating branches with social entities. In the following, the terms *district* and *region* are used interchangeably, but descriptively, to refer to spatial—rather than social—segments of the Western Pueblo area.

the pueblo iv database in the western pueblo area

Late prehistoric Western Pueblo settlements have long attracted the interest of researchers, and they provide a relatively complete picture of Pueblo IV period (A.D. 1275–1400) settlement pattern. Population consolidation during the Pueblo IV period resulted in fewer settlements, and this territorial contraction makes regions appear all the more obvious (fig. 2.2). Kintigh (1990) summarized the western temporal and spatial data for this period approximately a decade ago. The current discussion is both an update and a departure. Several recent projects have expanded the Pueblo IV period database, and consensus about a slightly different series of important temporal divisions has since emerged.

Since the late 1980s, several research projects have provided new information on Pueblo IV settlements in the Western Pueblo area. Adams and his colleagues have made major contributions to our understanding of sites associated with the Homol'ovi group near Winslow (Adams 1991, 1996a, 1996b; Adams ed. 1996; Adams and Hays 1991; Lange 1998; Lyons 1999; Walker 1995, 1996). Fieldwork at Grasshopper has ceased, but these data and collections continue to be important resources (see Reid [1999] and Reid and Whittlesey [1997, 1999] for Grasshopper area bibliographies; also Duff 1999:3.9). Mills and her colleagues have been working at several sites in the Silver Creek area with the University of Arizona field school, including the Pueblo IV Bailey Ruin (Herr 1999; Kahldahl 2000; Mills 1998; see Mills et al. eds. 1999). Kintigh directed Arizona State University field schools near Zuni, and Duff and Kintigh co-directed Arizona State University field schools in the Upper Little Colorado district (see Duff 1999:3.9 for references). Most of this fieldwork, and almost all of the resulting publications, postdate Kintigh's earlier contribution. This research has provided robust excavated collections and revised assessments of the timing of settlement changes and occupations for Pueblo IV sites. More importantly,

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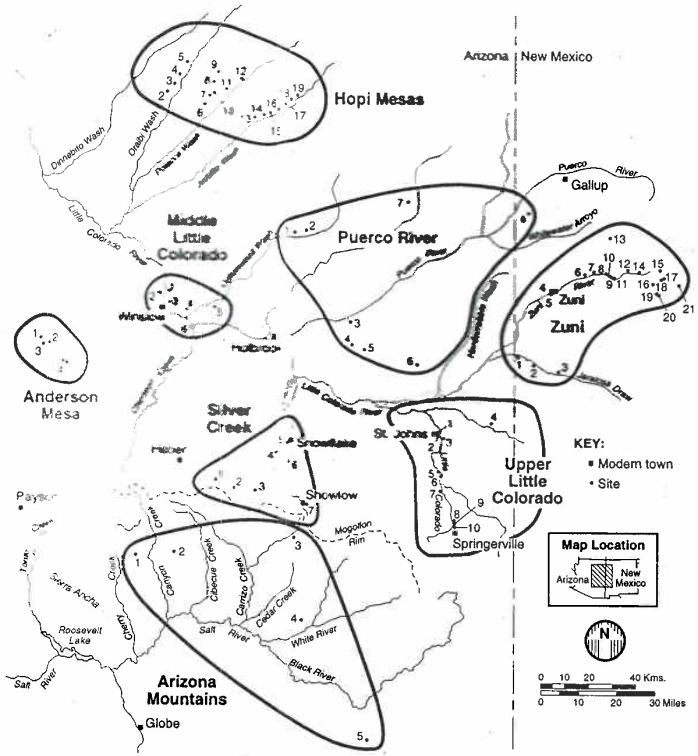

Figure 2.2. Pueblo IV period settlement and district locations within the Western Pueblo area (sites, indicated by number within districts, are listed in table 2.1).

recent research has been more explicitly concerned with evaluating regional or macro-regional dynamics and interactions when compared with earlier projects.

I use this information to divide the Pueblo IV period into Early (A.D. 1275–1325) and Late (A.D. 1325–1400) segments. Agreement that A.D. 1275 and 1325 represent critical thresholds in the development of Southwestern societies is relatively recent, though these dates correspond to some of the most dramatic changes in the prehistoric Southwestern landscape. Sometime between A.D. 1275 and 1300, the Mesa Verde and Kayenta regions were completely depopulated (Dean 1996; Duff and Wilshusen 2000; Lipe 1995; Varien 1999; Varien et al. 1996), directly or indirectly affecting occupations throughout the Western Pueblo area. These dates coincide with major developments and transitions outside the Western Pueblo area; for example, in the Verde River valley (Pilles 1996), the Tonto Basin (Elson 1996, 1998; Rice and Lindauer 1994; Stark et al. 1995), the Hohokam core area (Abbott 2000), and the Rio Grande (Crown et al. 1996).

The following overview of settlement data, which employs a number of commonly used Western Pueblo districts (fig. 2.2) that approximate the branches of Gladwin and Colton, is designed to highlight general trends and local differences in demography and settlement history. The sites assigned to each period, and their size, are listed by district in table 2.1.

early pueblo iv (a.d. 1275–1325) The process of nucleation—the consolidation of all (or most) of the population into contiguous, masonry or adobe structures—characterized the occupied Plateau Southwest by about A.D. 1275. The demographic and migration histories of specific districts, however, differ dramatically (Duff 1998).

Zuni. Settlement density in the Zuni region was high, a continuation of the high densities of the late A.D. 1100s and early A.D. 1200s (Kintigh 1996; Kintigh and Duff 1993). Plaza-oriented, nucleated pueblos—such as the extremely large sites of Archaeotekopa II, Kluckhohn, and Box S—were constructed prior to A.D. 1275. Using ceramics, Kintigh (1985a, 1996) suggests that these sites were founded in approximately A.D. 1250. The ceramic data suggest to me that these settlements were founded as early as A.D. 1225. The earliest nucleated sites appear to have been relatively short-lived and were contemporaneous with aggregated (multiple-roomblock) communities such as Scribe S (Watson et al. 1980) and Hinkson Ranch (Eckert 1995; Kintigh et al. 1996). The entire Zuni-region population inhabited nucleated pueblos by A.D. 1275 (Kintigh 1985a, 1990:264). Kintigh (1985a, 1996) has documented at least fifteen sites, totaling more than seven thousand rooms, that were constructed and occupied during the A.D. 1275–1325 period. Most nucleated Zuni sites have a coherent construction plan, suggesting single-event constructions that would have required considerable planning and unified group effort (Kintigh 1985a; Watson et al. 1980).

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Table 2.1. Sites and Room Count Totals Assigned to Early and/or Late Pueblo IV Periods by District

Early Pueblo IV	Early & Late Pueblo IV	Late Pueblo IV
Anderson Mesa		
2-Pollock (60)	1-Kinnicklnnick (200)	
4-Chavez Pass North (150)	3-Grapevine (125)	
	4-Chavez Pass South (850)	
EPIV total 800		LPIV total 590
Arizona Mountains		
	1-Q-Ranch (200)	(Not plotted)
	2-Grasshopper (500)	Black Mountain (70)
	3-Tundastusa (200)	Blue House Mountain (120)
	4-Kinishba (500)	Brush Mountain (140)
	5-Point of Pines (800)	Canyon Butte (65)
		Canyon Creek (60)
		Hilltop (60)
		Oak Creek (35)
		Red Canyon (45)
		Red Rock House (20)
		Ruins Tank (95)
		Spotted Mountain (80)
EPIV total 1,100		LPIV total 1,890
Middle Little Colorado		
2-Homol'ovi III (50)	3-Homol'ovi I (700)	1-Homol'ovi II (1200)
4-Cottonwood (100)	6-Chevelon (500)	
5-Jackrabbit (150)		
EPIV total 900		LPIV total 1,900
Puerco River		
1-Bidahochi (250)	4-Wallace Tank (250)	
2-Bidahochi SE (150)		
3-Puerco Ruin (125)		
5-AZ Q:2:22 ASM (100)		
6-Seven Springs (175)		
7-Kin Tiel (675)		
8-Big House (500)		
EPIV total 2,100		LPIV total 125
Silver Creek		
1-Bailey (200)	4-Fourmile-Roomblock A (200)	4-Fourmile-Roomblocks
2-AZ P:11:133 ASU (10)		B-E (200)
3-Pinedale (200)		6-Shumway (55)
5-Flake (50)		7-Showlow (200)
EPIV total 560		LPIV total 555
Upper Little Colorado		
4-Garcia Ranch (?)	1-Spier 175 (175)	3-Table Rock (80),
10-Casa Malpais (50)	2-Spier 176 (125)	5-Rattlesnake Point (85)
	6-Baca (90)	
	7-Raven (300)	
	8-Danson (25)	
EPIV total 435	9-Hooper Ranch (60)	LPIV total 550
Hopi Mesas		
2-Huckovi (300)	3-Old Oraibi (500)	1-Old Moenkopi (30)
4-Kwatuki (200)	5-Hoyapi (150)	8-Chuckovi (250)
9-Chumalisko (100)	6-Old Shunopavi (500)	
16-Pink Arrow (100)	7-Old Mishongnovi (400)	
19-Lululongturqui (60)	10-Lamehva (150)	
	11-Kuchaptevela (500)	
	12-Sikyatki (500)	
	13-Awatovi (800)	
	14-Kawaika-a (500)	
	15-Chakpahu (250)	
	17-Nesfutanga (100)	
	18-Kokopnyama (250)	
EPIV total 3,060		LPIV total 2,580
Zuni		
3-Fort Atarque (200)	1-Ojo Bonito (225)	4-Halona:wa North (200)
5-Halona:wa South (375)	2-Spier 170 (200)	8-Lower Pescado Village
6-Yellowhouse (425)	7-Heshotauthla (875)	(420)
12-Ramah School (185)	15-Pueblo de los Muertos (880)	9-Pescado West (450)
13-Upper Nutria (180)	17-Cienega (500)	10-Lower Pescado (180)
14-Kluckhohn (1100)	20-Atsinna (875)	11-Upper Pescado (400)
16-Lookout (300)		
18-Mirabal (740)		
19-North Atsinna (180)		
21-Tinaja (160)		
EPIV total 5,625		LPIV total 3,425

Note: Numbers correspond to those on Figure 2.2 by district, room count estimates in parentheses.
Sources: Compiled from Adams (1996a, 1996b), Bannister et al. (1966), Brown (1990), Burton (1993), Haury (1985), Kintigh (1985a, 1990, 1996), Mills (1998), Reid and Riggs (1995), and Reid et al. (1996).

The Hopi Mesas and the Middle Little Colorado. Substantial construction also occurred in the Hopi Mesas district, where Adams (1996a:51) notes that "fourteen settlements were established during the last few decades of the thirteenth century." This boom in construction appears to represent the consolidation of local populations, perhaps supplemented by immigration. The lightly populated Moenkopi area

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was abandoned (Adams 1996a:52), and the Hopi Mesas may have received additional immigrants from the Mesa Verde and Kayenta regions after A.D. 1280 (Lindsay and Dean 1983:163; Lipe 1995). The unoccupied Middle Little Colorado district was again settled between A.D. 1260 and 1280 with the founding of Homol'ovi IV by immigrants from either the Hopi Mesas or Hopi Buttes (Adams 1996a:50), or from the Kayenta region (Lyons 1999). About A.D. 1280, five other settlements were constructed by immigrants from other areas of the Little Colorado drainage system (Adams 1996a:50).

Anderson Mesa. The Anderson Mesa district apparently consisted of contemporaneous occupation of the north and south roomblocks at Chavez Pass (Upham and Bockley 1989:488; cf. Coinman 1992), Kinnickinnick (Bannister et al. 1966:20–21), Pollock (Bannister et al. 1966:22–23), and Grapevine. These settlements apparently represent the consolidation of local populations, but they may have also attracted settlers from adjacent areas previously characterized by dispersed settlements (Pilles 1996:68–69). Chavez Pass is much larger than the other settlements in the district, and there has been considerable debate about the nature of occupation in the area surrounding this site. Some have argued for contemporaneous occupation of dispersed roomblocks, which increases local population estimates and implies that material differences between dispersed and nucleated settlements were behavioral (e.g., Upham and Plog 1986). Others (myself included) believe that these roomblocks were either earlier or functionally distinct (for example, field houses), and that this accounts for observed material differences (e.g., Graves 1987). In either case, occupation in the Anderson Mesa region was continuous, and population density was low relative to other regions (Pilles 1996).

Puerco River. Several Early Pueblo IV settlements are present along the Rio Puerco of the West and its tributaries, although these have not been consistently treated as a single region (Stein and Fowler 1996; Upham 1982:fig. 19). I group these settlements here as a matter of convenience and because they shared a common historical trajectory. These settlements appear to represent the consolidation of local populations, with Big House and Kin Tiel being located in areas that had higher population densities. The area between Big House and Kin Tiel had much higher populations during Pueblo II and Pueblo III times (Duff 1998), which suggests significant population relocation prior to the construction of the Early Pueblo IV sites. Puerco Ruin (Burton 1990) and a few other settlements in the vicinity of the Petrified Forest were also occupied at this time (Burton 1990; Kintigh 1996). The population of these areas may have been augmented by immigrants from the Tusayan and Kayenta regions.

Silver Creek. The settlement history of the Silver Creek district suggests several episodes of population mobility (Mills 1998), with Early Pueblo IV sites probably representing consolidation of local populations augmented by immigrants. Herr (1999) suggests that some early settlers came from Chacoan-influenced areas to the northeast. Four or five sites appear to have been constructed and occupied during the Early Pueblo IV period, and these are relatively distant from one another. Immigrants from northern districts may have also joined settlements at this time.

Upper Little Colorado. The Upper Little Colorado district contains five or six pueblos constructed during the Early Pueblo IV period (Duff 1999, 2000; Kintigh 1996). These do not differ dramatically in scale from those inhabited during the A.D. 1200s in the area. Immigrants may have joined local groups, but there appears to have been enough local occupation to account for the Pueblo IV period settlement density. Most of these sites are relatively small, averaging between fifty and one hundred rooms, with elements of both agglomerative and single-event constructions.

The Arizona Mountains. Below the Mogollon Rim, the Arizona Mountains region witnessed immigration and local growth during the Early Pueblo IV period, a process that accelerated about A.D. 1280 (Reid et al. 1996:77). Grasshopper Pueblo was founded in about A.D. 1275, and increased construction around A.D. 1300 is interpreted as the consolidation of local populations supplemented by immigration from above the Mogollon Rim (Reid 1989; Reid and Riggs 1995; Reid et al. 1996). The unsettled demographic history of the Grasshopper area resulted in the construction of a number of discrete roomblocks that were later joined by additional construction. Similar growth characterizes other settlements in the Arizona Mountains region, though larger constructions appeared somewhat earlier in the eastern portions (Lowell 1991; Reid 1989; Reid and Whittlesey 1997, 1999; Reid et al. 1996:77). For example, at Point of Pines, both local population growth and growth attributed to the arrival of a group from the Kayenta region date to this period (Haury 1958; Reid 1989). Kin-

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ishba (Cummings 1940; Triadan 1997) and Tundastusa (Haury 1985:392; Mills 1998) were apparently occupied by this time. Based on its proximity to Silver Creek settlements, Mills (1998) considers Tundastusa part of the Silver Creek group.

Summary: Early Pueblo IV. To some degree, the configuration and planning evident in Early Pueblo IV period sites reflect the migration history and depth of local population development in the immediate area. Regions with substantial prior occupations—Zuni and Hopi—contain larger settlements with greater evidence of planned construction. Regions with unsettled demographic histories or lower population densities contain fewer sites, and those sites are relatively smaller (for example, the Silver Creek and Upper Little Colorado regions). These settlements often grow through agglomeration, such as those in the Arizona Mountains, and they tend to be relatively distant from neighboring settlements. While issues of absolute contemporaneity within and between sites remain problematic, the differences in demographic scale among regions were dramatic.

late pueblo iv (a.d. 1325–1400) Many of the settlements built during the Early Pueblo IV period persisted only two or three generations and were either abandoned or significantly depopulated by A.D. 1325, at which time a second major episode of construction and settlement restructuring occurred (Duff 2000; Duff and Kintigh 1997). A limited number of Early Pueblo IV settlements were occupied until A.D. 1400, and these were concentrated in the Zuni and Hopi regions.

Zuni. In the Zuni district, a few sites in the El Morro Valley (Pueblo de los Muertos, Atsinna, and Cienega) persisted with substantially reduced occupation into the late A.D. 1300s (Duff 1996; Duff and Kintigh 1997). Several sites were abandoned and new settlements were constructed downstream toward modern Zuni (Duff and Kintigh 1997; Kintigh 1985a, 1996). Overall, there was a reduction in the total number of rooms constructed and occupied during the Late Pueblo IV period in the Zuni region, although there is no evidence for major population departures.

The Hopi Mesas, the Middle Little Colorado, Anderson Mesa, and the Puerco River. Settlement reconfiguration also characterized the Hopi Mesas district, with the addition of plazas to continuously occupied settlements and abandonment of other established villages (Adams 1996a, 1996b). Additional immigration and reconfiguration resulted in substantially larger settlements during the Late Pueblo IV period (Adams 1996a:51). In the Middle Little Colorado district, Homol'ovi II was established. Apparently founded by settlers from the Hopi Mesas, this site, with approximately twelve hundred rooms, came to dominate the local social landscape (Adams 1996a, 1996b). Homol'ovi I and Chevelon continued to be occupied, while the remaining sites, all smaller, were abandoned. Occupation of the Anderson Mesa district continued with the exception of the north pueblo at Chavez Pass (Upham and Bockley 1989:488) and the Pollock Site (Brown 1990:19). The Puerco River district was almost completely abandoned, with populations probably joining settlements in adjacent districts. Occupation at one or more of the Bidahochi sites may have persisted, as indicated by the presence of late ceramic types (Barbara Mills, personal communication 1997; cf. Adams 1996a).

Silver Creek, the Upper Little Colorado, and the Arizona Mountains. In the Silver Creek drainage, there appears to have been a nearly complete settlement reconfiguration, with most of the Early Pueblo IV period sites being abandoned. At least one room at Pinedale Ruin (Haury and Hargrave 1931) has cutting dates extending into the A.D. 1370s (Bannister et al. 1966:35–37), and the extent of occupation at this site after A.D. 1325 remains uncertain. Two large settlements, Fourmile and Showlow Ruin, and a smaller site (Shumway) were constructed or expanded between A.D. 1325 and 1400 (Mills 1998). A similar reconfiguration characterizes the Upper Little Colorado River district, where a few sites were abandoned (for example, Casa Malpais) and new settlements were constructed (Rattlesnake Point and Table Rock). Later sites have clearer indications of planned, single-event constructions, though these remained small settlements. A change in the occupation of the Grasshopper area is indicated by a general decline in building activity at Grasshopper Pueblo and the dispersion of its population to the numerous surrounding settlements that were constructed at this time (Reid 1989:85; Reid and Riggs 1995; Reid and Whittlesey 1999 [Note: these are not plotted on fig. 2.1, see Triadan 1997:fig. 5.1]). Grasshopper Pueblo apparently was occupied on a part-time basis after about A.D. 1330, while the other large Arizona Mountains district settlements (Kinishba, Tundastusa, Point of Pines) continued to be occupied.

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Regional Migration. To the best of our present knowledge, all Western Pueblo sites outside of the Hopi and Zuni districts ceased to be occupied by the late A.D. 1300s. Currently, the latest tree-ring dates by district are A.D. 1370 for both Rattlesnake Point and Raven, and A.D. 1377 for Table Rock, all in the Upper Little Colorado region (Duff 1999:table A.1); A.D. 1381 for Chavez Pass in the Anderson Mesa region (as originally reported by Douglass; see Bannister et al. 1966:19); and A.D. 1384 for Showlow Ruin in the Silver Creek district (Bannister et al. 1966:39–47). Given sampling considerations and probable structure use life after the last repair (Hantman 1983:105), occupations much beyond A.D. 1400 seem unlikely.

Summary: Late Pueblo IV. The Late Pueblo IV period witnessed a divergent series of transitions. In several areas, smaller settlements were abandoned as larger sites within districts persisted or expanded. Around Grasshopper Pueblo, the resident population dispersed from the nucleated settlement. Internal reconfiguration and persistence characterizes the Hopi and Zuni regions, though the total number of rooms in new Zuni settlements appears to have been reduced relative to earlier constructions (Duff and Kintigh 1997). Elsewhere, I have suggested that Early Pueblo IV settlements may have been over-constructed—that is, they were never fully occupied (Duff 1996:98). If true, this may account for some of the apparent decline in Zuni population. Additionally, some Zuni-region residents may have joined populations in the Acoma area or further east (Gregson Schachner, personal communication 1999; Woodbury 1956). Internal population restructuring and the abandonment of some settlements within regions characterized by generally lower population densities may have initiated migration streams to more densely populated settlements in the Hopi and Zuni regions (Duff 1998).

the protohistoric period (ca. a.d. 1400–1540)

The A.D. 1400–1540 interval, traditionally considered part of the Pueblo IV period (Kidder 1927), is characterized by fundamentally different social processes that I associate with the protohistoric period. Several of the Hopi sites occupied in the fourteenth century appear to have been continuously occupied until or beyond European contact, though some were abandoned around A.D. 1400 (Adams 1996a). In the Zuni region, almost all settlements were abandoned by A.D. 1400, and a number of new villages were founded (Kintigh 1985a, 1990).

The extent of Pueblo IV occupation at these sites is unknown, having been obscured by later construction, but an assessment of mortuary evidence suggests that it was relatively limited (Howell 1994; Kintigh 2000). Several of these villages were still occupied at contact, while others were abandoned shortly before the arrival of the Spanish (Ferguson 1981; Kintigh 1985a, 1990).

an assessment of western pueblo demography

The demographic parameters of the Western Pueblo districts reveal two distinct population dynamics that dramatically affected social interactions. These are evident when cumulative room count estimates for each district are used as a proxy for relative population (table 2.1). The cumulative room count estimates were derived as follows: half of the room count total from sites occupied throughout the Pueblo IV period was assigned to the Early Pueblo IV periods; half was assigned to the Late Pueblo IV period. For sites occupied during only one segment of the Pueblo IV period, the entire room count estimate for a site was assigned to the appropriate interval.

The Hopi and Zuni districts have significantly higher populations than all other regions. In terms of material culture, these two regions were internally focused, with relatively few visible imports throughout Pueblo IV times (Adams 1996a; Kintigh 1985a). Both appear to conform to the ideal "region" of early researchers in that they have a consistent developmental history, a stable population history, and a coherent material culture assemblage. If we use the regional room count estimates derived for Hopi and Zuni as demographic proxies for materially coherent regions, we get a range of about twenty-six hundred to fifty-six hundred rooms. This suggests a demographic component to regions conforming to idealized notions of material and social coherence. Room count estimates from all other Western Pueblo districts combined approximate the upper Zuni range during both Early and Late Pueblo IV times. There is also a territorial component to materially coherent regions. The combined population of all districts outside of the Zuni and Hopi region occupied an area some seven to ten times the size of either of the Hopi or Zuni districts. Additionally, individual settlements outside the Hopi and Zuni regions tend to be, on average, smaller.

These two different trends highlight the potential for demographically based distinctions of social scale in both local and regional decision-making structures. The social scales of individual settlements and regional popula-

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