Examination of regional-scale processes in prehistory requires explicit consideration of what we mean by regions. Definitions vary with research interests and the times, but the boundaries of regions are usually defined by topography and the distribution of a number of material culture traits. As such, regions are essentially the scale within which archaeologists believe social interactions were concentrated. A closer look at regions, however, at least as they are defined archaeologically, suggests that they are less internally coherent than we might expect. The question then becomes not only whether we can identify regions but whether the regions we identify are meaningful. I suggest that a consideration of demography and some of its associated properties can further archaeologists' understanding of variability in material culture in different areas during later prehistory and that it will permit us to construct regions with greater behavioral meaning.

I begin with a brief review of the history of southwestern regions to present a context from which to evaluate current use of the term. This is followed by a descriptive presentation of Pueblo IV (A.D. 1275-1400) settlement patterns in the Western Pueblo area, leading to the conclusion that critical settlement changes occurred at about A.D. 1275 and 1325. Major developments in iconography and macroregional population movements also occurred at these times. This patterning has been the basis of arguments
regarding the scale and organization of Pueblo IV society and ideology (e.g., Adams 1991; Crown 1994; Upham 1982).

I then investigate the Upper Little Colorado district to consider how archaeological regions can be interpreted and to investigate differences that exist both within and between areas considered to be regions. The scale and approximate boundaries of regions are the combined product of research histories and definitional criteria. If—as is often the case—regions are assumed to be archaeological proxies for social entities, the validity of the geographic-cultural link must be demonstrated. Consideration of comparative population density measures suggests that regional interaction occurred on multiple and contrasting scales, each probably involving different social processes.

**Developing the Concept of Regions**

Early southwestern archaeology was done at a scale that encompassed the southwestern culture area. Alfred Kidder and colleagues were clearly thinking on a regional, if not a macroregional, scale when they devised the Pecos Classification (1927), a single classificatory system designed for a single culture area—the Southwest (Willey and Sabloff 1980: 104). Kidder, however, also employed the concepts of regions and districts to break the Southwest into manageable units (1927: 163). Kidder used *region* and *culture area* interchangeably to refer to subdivisions of the Southwest defined on the basis of river drainages but also corresponding to “areas of specialization” in material culture (163). Kidder used *district* to refer to subcultures within regions, primarily defined by ceramic differences (166). The concept of regions composed of multiple districts persists, in modified form, in recent descriptive and interpretive works (e.g., Adler 1996). Kidder’s Upper Little Colorado culture area corresponds to the entire area referred to here as Western Pueblo.

Thinking on a large scale—the Southwest—while working at the smallest of scales—individual sites—Kidder believed it would be possible to sort out prehistory and begin to ask more anthropological questions. However, the problem with thinking on this scale soon became evident to Kidder and others (Willey and Sabloff 1980: 105) as it became apparent that particular developments in specific regions and districts did not fit with the perceived overall system (Cordell 1984: 82; Gladwin and Gladwin 1934: 7). The dizzying amount of variation in any one area created a tumult of research that belied the notion of the Southwest as a uniform area.

The Gladwins (1934) attempted to create order from the southwestern material record. Working at a macroregional scale (Gladwin 1957; Lekson 1995), Gladwin and Gladwin’s (1934) solution was the multitiered Root-Stem-Branch-Phase system, which created smaller operational units for managing variability within the framework of Kidder’s Southwest. The Gladwins’ system acknowledged the differential timing of cultural developments and created a smaller classificatory category (the branch). Roots referred to the original populations from which later peoples developed, and stems referred to major geographical areas, whereas branches were “culture areas” within which a tradition of material culture traits could be recognized. The Gladwins’ branches were the equivalent of Kidder’s districts. Phases were designed to account for diachronic changes within a branch. The Gladwins’ system effectively downsized Kidder’s regional constructions. They did not imply, however, that branches were meaningful behavioral entities; branches were simply classificatory creations corresponding to observed variability (Willey and Sabloff 1980: 105, note 23).

Continued documentation of chronological and spatial variability made evident the need for a better classificatory system. Kidder’s districts were unworkably large; the Gladwins’ smaller branches were somewhat confused by terminology and assumptions associated with evolutionary relationships (roots). Harold Colton set out to clarify timespace systematics for once and for all (1939). Influenced by McKern’s Midwestern Taxonomic Method (McKern 1939; Willey and Sabloff 1980: 106), Colton simplified the Gladwins’ system by beginning with major culture areas (Hohokam, Mogollon, Anasazi, Patayan) and then moving right down to branches and foci. Branches were basically synonymous with ceramic ware distributions, and foci were spatial variants within a shared ware tradition. Colton stated, “We can think 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” (1939: 71).

Although a suite of material culture traits was intended to be used in their definition, regions came to be defined largely on the basis of a single artifact class: ceramics. Colton’s revision of the Gladwins’ system has become the basic framework of contemporary research, and today we all recognize branches as spatial referents (e.g., Mesa Verde, Kayenta, Cibola). 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 associate particular cultural developments with
these spatial referents. It seems to me that archaeologists are purposefully vague or imprecise in their definition and use of regions, and I would argue that 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 reflect an entity within which interaction was concentrated (e.g., Braun and Plog 1982), where local populations experienced similar events and possess a shared sense of history. Although some

Early Pueblo IV

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Early and Late Pueblo IV

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Late Pueblo IV

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<tbody>
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<td>Pueblo West</td>
<td>Settlement</td>
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Map 4.1. Pueblo IV settlement and district locations in Western Pueblo area (sites, indicated by number, are listed in Table 4.1)
recognize that regions have some formal social properties, explicit statements about integration (economic, social, ceremonial, or political) or “interaction” are usually lacking. In short, I would argue that many archaeologists continue to ascribe “tribal” or “ethnic” status to regional distributions of ceramics and settlements and that they, consciously or not, interpret these patterns assuming varying degrees of internal homogeneity (for an explicit example see Haas et al. 1994). It is because of this background that the appropriateness of equating branches with social entities is questioned later. In the following, I use the terms district and region interchangeably but descriptively to refer to spatial segments of the Western Pueblo area as outlined on Map 4.1.

THE PUEBLO IV DATABASE IN THE WESTERN PUEBLO AREA

Late prehistoric Western Pueblo settlements have long attracted the interest of researchers, providing a relatively complete picture of the Pueblo IV (A.D. 1275–1400) settlement pattern. Settlements are found in fewer places later in prehistory, and this territorial contraction makes regions appear all the more obvious. Keith Kintigh (1990) discussed some of these trends at the first Southwest Symposium in 1988, and the present chapter represents both an update of and a departure from Kintigh's work. Spatially, this discussion covers the area referred to as Western Pueblo (Map 4.1). The Western Pueblo area here excludes Acoma because of uncertainty about the representativeness of the data available from the region (see Roney 1996), although ethnographically Acoma is considered a Western Pueblo (Eggan 1950).

A number of continuing research projects have provided new information on Pueblo IV settlements in the Western Pueblo area since 1988. E. Charles Adams and colleagues have made major contributions to our understanding of sites associated with the Homol'ovi Group near Winslow (Adams 1991, 1996a, 1996b; Adams and Hays 1991; Adams, Stark, and Dosh 1993; Walker 1995; Walker and colleagues, Chapter 16, this volume). Fieldwork at Grasshopper has ceased, but data and collections continue to be important resources (Reid 1989; Reid and Riggs 1995; Reid et al. 1995; Triadan 1997; Triadan, Mills, and Duff 1997; Zedeño 1994). Barbara Mills and 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 (Mills 1995, 1998; Mills et al. 1993, 1994, 1995). Kintigh has directed Arizona State University field schools near Zuni and, codirected with Duff, Arizona State University field schools in the Upper Little Colorado district (Duff 1995; Duff and Kintigh 1993; Kintigh 1994, 1996; Kintigh and Duff 1993; Stone 1992). Most of this fieldwork and almost all of the resulting publications postdate Kintigh's earlier contribution. This recent research has provided robust excavated collections and revised assessments of the timing of settlement changes and site occupations for Pueblo IV sites. More important, this research has developed an explicit focus on evaluating models of regional or macroregional interaction.

I use some of this new information to divide Pueblo IV into Early (A.D. 1275–1325) and Late (A.D. 1325–1400) periods. Agreement that A.D. 1275 and 1325 (plus or minus 5–10 years) represent critical thresholds in the development of southwestern societies is relatively recent, and these dates correspond with some of the most dramatic changes in the prehistoric southwestern landscape. Sometime after A.D. 1275 and before A.D. 1300, the Mesa Verde and Kayenta regions were completely depopulated (Dean 1996; Vrba et al. 1996), directly or indirectly affecting occupations in the Western Pueblo area. These dates coincide with major developments and transitions outside the Western Pueblo area (e.g., Tonto Basin, Hohokam core, Rio Grande). My overview of settlement data considers various Western Pueblo districts (Map 4.1) and is designed to highlight general trends and local differences in demography. The sites assigned to each period are listed by district in Table 4.1, and almost all of this information is reported by region in chapters in Adler (1996), although I have made minor modifications.

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 characterizes the occupied Plateau Southwest by about A.D. 1275. The demographic and migration histories of specific districts, however, differ dramatically (Duff 1998).

The Zuni region contains high settlement density, which seems to be a continuation of high densities in the late A.D. 1100s and early A.D. 1200s (Kintigh 1996; Kintigh and Duff 1993). The entire Zuni population was living in large nucleated pueblos by A.D. 1275 (Kintigh 1985, 1990: 264), and Kintigh (1985, 1996) has documented at least fifteen sites—totaling more than 7,000 rooms—constructed and occupied during the A.D. 1275–1325 period. Most nucleated Zuni sites have a coherent construction plan, suggesting single-event constructions indicative of considerable planning and unified group effort (Kintigh 1985; Watson, LeBlanc, and Redman 1980).
Substantial construction also occurred in the Hopi Mesas district, where "fourteen settlements were established during the last few decades of the thirteenth century" (Adams 1996a: 51). This appears to represent the consolidation of local populations, perhaps supplemented by immigration. The lightly populated Moenkopi area 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. The previously unoccupied Middle Little Colorado district witnessed its first sizable settlement between A.D. 1260 and 1280 with the founding of Homol'ovi IV by migrants from either the Hopi Mesas or Hopi Buttes (Adams 1996a: 50). At around A.D. 1280, five other settlements were constructed by immigrants from other areas of the Upper Little Colorado drainage system (Adams 1996a: 50).

The Anderson Mesa district consists of contemporaneous occupation of the north and south room blocks at Chavez Pass (Upahm and Bockley 1989: 488), Kinmickiwicki, Kinniwicki (Bannister, Gell, and Hannah 1966: 20-21), Pollock (Bannister et al. 1966: 22-23), and Grapevine. This appears to represent the consolidation of local populations, although there may also have been migration from adjacent areas also characterized by dispersed settlements (Pilles 1996: 68-69). Chavez Pass is much larger than other settlements in the district, and there has been considerable debate about the occupation and nature of the dispersed room blocks immediately surrounding this site. Some have argued for their contemporaneous occupation, which increases local population estimates and implies that material differences between dispersed and nucleated settlements were behavioral (e.g., Upahm and Plog 1986). Others, myself included, suggest that these room blocks either were earlier or were functionally different structures such as field houses (e.g., Graves 1987). In either case, population density in the Anderson Mesa district was relatively low compared with other regions (Pilles 1996).

Several Early Pueblo IV settlements are present along the Puerco River of the West and its tributaries, although this area has not consistently been treated as a region (see Upahm 1982: figure 19). These settlements appear to represent the consolidation of local populations, with Big House and Kin Tiel in areas that had higher population densities. The area between Big House and the Kin Tiel had much higher populations during Pueblo II and Pueblo III times, suggesting significant population relocation prior to construction of Early Pueblo IV sites.

The settlement history of the Silver Creek district suggests several episodes of population mobility (Mills 1995, 1998), with Early Pueblo IV sites probably representing consolidation of local populations augmented by migrants. Four or five sites appear to have been constructed and occupied in Early Pueblo IV, and they are relatively distant from one another. Mills and others (1994) have revised Emil Haury's (1985: 391) Pinedale Phase dates (originally A.D. 1200-1300) to A.D. 1275-1325. Mills's (1998) reevaluation of settlement pattern data suggests that the Showlow Ruin was partially occupied in Early Pueblo IV (cf. Kintigh 1996).

Below the Mogollon Rim the Arizona mountain region witnessed immigration and local growth in Early Pueblo IV, a process that accelerated about A.D. 1280 (Reid et al. 1996: 77). Grasshopper Pueblo was founded 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 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 room blocks that were later joined, giving Grasshopper Pueblo a planned appearance in its final form. Similar growth characterizes other settlements in the Arizona mountains, although larger constructions appeared somewhat earlier in the eastern portions (Reid 1989; Reid et al. 1996: 77). Growth at Point of Pines and the intrusive component, attributed to the arrival of a group from the Kayenta region (Haury 1958), both date to this period (Haury 1958; Reid 1989). Kinishba and Tundastusa (Haury 1985: 392) were apparently occupied by this time.

The Upper Little Colorado district contains six pueblos constructed during Early Pueblo IV (Kintigh 1996). These pueblos do not differ dramatically in scale from the A.D. 1200s occupations in the area. Migrants may have joined local groups, but there appears to have been enough local occupation to account for the Pueblo IV settlement density. Most of these sites are relatively small—averaging between 50 and 100 rooms—with elements of both agglomerative and single-event constructions.

To some degree, the configuration and planning evident in Early Pueblo IV sites reflect the migration history and depth of local population development in the immediate area. Regions with substantial prior occupations, such as Zuni and Hopi, contain settlements that are (generally) larger and appear more planned. Regions characterized by unsettled demographic histories or lower population densities contain fewer sites that are relatively smaller (e.g., Silver Creek, Upper Little Colorado) and often grow through agglomeration, such as those in the Arizona mountains. Whereas issues of absolute contemporaneity within and between sites are rarely completely resolved (see Nelson et al. 1994), the differences in demographic scale between regions are dramatic. Many of the
sites built during the Early Pueblo IV period lasted only two or three generations and were either abandoned or significantly depopulated by A.D. 1325.

LATE PUEBLO IV (A.D. 1325-1400)

A second major episode of construction and settlement restructuring occurred at about A.D. 1325. A limited number of settlements constructed in Early Pueblo IV appear to have been continuously occupied until A.D. 1400, and they are concentrated in the Zuni and Hopi regions. In the Zuni district, a few sites in the El Morro Valley (Pueblo de los Muertos, Atsinta, and Cienega) persist with substantially reduced occupation into the later A.D. 1300s (Duff 1996; Duff and Kintigh 1997), but several sites were abandoned and new settlements were constructed downstream toward modern Zuni (Duff and Kintigh 1997; Kintigh 1985, 1996). Overall, there appears to have been a reduction in the total number of rooms constructed and occupied during Late Pueblo IV in the Zuni area.

Settlement reconfiguration also characterized the Hopi Mesas, with the addition of plazas to continuously occupied settlements and abandonment of other established villages (Adams 1996a). Additional immigration and reconfiguration resulted in substantially larger settlements during Late Pueblo IV (Adams 1996a: 51). In the Middle Little Colorado district, Homol’ovi II was established. Apparently founded by migrants from the Hopi Mesas, with 1,200 rooms it came to dominate the local landscape (Adams 1996a, 1996b). Homol’ovi I and the Chevelon site continued to be occupied, whereas the remaining earlier sites were abandoned. Occupation of the Anderson Mesa complex continued with the exception of the North Pueblo at Chavez Pass (Upahm 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.

In the Silver Creek drainage, a nearly complete settlement reconfiguration appears to have occurred, with most of the Early Pueblo IV sites abandoned. At least one room at the Pinedale Ruin (Haury and Hargrave 1931) has cutting dates extending into the A.D. 1370s (Bannister, Gell, and Hannah 1966: 35-37), and the extent of occupation at this site after A.D. 1325 remains uncertain. Two large settlements, Fourmile and Showlow Ruins, and a smaller site (Shumway) were constructed or expanded during the A.D. 1325-1400 interval.

A similar reconfiguration characterizes the Upper Little Colorado River area, where a few sites were abandoned (Casa Malpais, Garcia Ranch) and replaced by new settlements (Rattlesnake Point and Table Rock). Later sites have clearer indications of planned, single-event constructions, although the sites remain small. A change in the occupation of the Grasshopper area is indicated by a general decline in building activity at Grasshopper Pueblo and population dispersion to the numerous surrounding settlements constructed at this time (Reid 1969: 85; Reid and Rigg 1995). Grasshopper Pueblo was apparently occupied on a part-time basis after about A.D. 1380, although the larger Arizona mountain settlements (Kinbisha, Point of Pines) continued to be occupied.

To the best of our knowledge, all Western Pueblo sites outside of the modern Hopi and Zuni reservations were abandoned sometime in the late A.D. 1300s. The latest tree-ring dates are currently A.D. 1370 for both Rattlesnake Point Pueblo and Raven in the Upper Little Colorado (Tree-Ring Laboratory files), A.D. 1381 at Chavez Pass in the Anderson Mesa group (as originally reported by Douglass; see Bannister, Gell, and Hannah 1966: 19), and the latest at A.D. 1384 from the Showlow Ruin in the Silver Creek district (Bannister, Gell, and Hannah 1966: 39-47). Given sampling considerations and probable structure use life after the last repair event (Hamman 1983), occupations much beyond A.D. 1400 seem unlikely.

The A.D. 1400-1540 period, traditionally part of Pueblo IV, is characterized by fundamentally different social processes, and I consider it Protohistoric. Several Hopi sites occupied in the fourteenth century appear to have been continuously occupied until or beyond contact, although some were abandoned around A.D. 1400 (Adams 1996a). In the Zuni region almost all settlements were abandoned at A.D. 1400, with a number of new villages then founded (Kintigh 1985, 1990). Several of these new villages were still occupied at contact, whereas others appear to have been abandoned shortly before the Spanish arrival (Kintigh 1985, 1990, 1996).

This brief description differs from previous reconstructions in that I focus on the sequential nature of site occupations over the A.D. 1275-1400 period rather than treating the period as a static whole. I base this discussion on an evaluation of tree-ring dates for sites when possible (Bannister, Gell, and Hannah 1966; Robinson and Cameron 1991; new dates on file at the Tree-Ring Laboratory) and on conservative evaluation and extension of associated ceramic assemblage dates to sites lacking tree-ring dates in published descriptions (especially the chapters in Adler 1996). This assignment of sites to either Early or Late Pueblo IV periods dramatically reduces the number of sites previously treated as contemporaneous (e.g., Lightfoot 1984; Upahm 1982), altering our perception of the demographic scale.
of Pueblo IV settlement clusters. This analysis has implications for defining regions and regional systems, and it suggests that A.D. 1275 and 1325 were pivotal dates to all occupants of the Plateau Southwest.

REGIONAL-SCALE MODELS

Two classes of regionally oriented arguments specific to the Western Pueblo area have been presented to account for the development of Pueblo IV patterns: the development of alliances (Plog 1983; Upham 1982; Upham and Reed 1989; Upham, Crown, and Plog 1994) and cults (Adams 1991; Crown 1994). Although both deal with regional-level processes, each model has different implications for the nature of “regions.”

The alliance model is the most prominent and explicit argument for a regional system in the late prehistoric Western Pueblo. An alliance is defined as “a mechanism that unites spatially separate groups in economic and sociopolitical relationships” (Upham, Crown, and Plog 1994: 191). As this definition is nearly identical to James Judge’s definition of a regional system—“consisting of a number of interacting but geographically separate communities that were dependent on each other through the exchange of goods and services” (1984: 8)—the reason alliances have been equated with regional systems should be clear. The alliance model is distinct in many ways, however, primarily in its explicitness about specifying the nature of relationships between different settlements and regions (also Neitzel, Chapter 2, this volume).

Alliances are argued to have been linkages between settlement clusters, politically organized entities that can be quantitatively identified using nearest-neighbor measures and ideas from central place theory (Jewett 1989; Upham 1983; Upham and Reed 1989). Alliance models basically represent a new way of conceptualizing the zones of material culture homogeneity identified by Colton (1939), and Upham’s settlement clusters are the same as the districts I have mentioned. Advocates of the alliance model interpret differences in site size within individual settlement clusters as evidence of an organizational hierarchy, and resident elites at each site are thought to have managed the productive surpluses of local areas (Upham 1982, 1983, 1984). Thus local settlement configurations (site spacing) facilitated the movement of foodstuffs between pueblos (Upham 1982, 1983; also Lightfoot 1979, 1983, 1984).

Posing that settlement clusters could be treated as single organizational entities permitted Upham (1982) to use decorated ceramic assemblage information from single sites within a district to generalize about exchange relationships between districts. Exchanged ceramics recovered in frequencies greater than expected by a distance-decay model were interpreted as evidence for the existence of alliances between the districts. Upham posited the existence of two primary alliances for the Western Pueblo area: the Jeddito alliance—encompassing the Hopi Mesas, the Middle Little Colorado, and Anderson Mesa—and the Salado alliance, indirectly associated with areas below the Mogollon Rim. Two intermediate areas, Silver Creek and the Upper Little Colorado, were also thought to represent smaller-scale alliances situated between, but interacting with, the Salado and Jeddito alliances. The Zuni district also represents an alliance but one that was relatively less integrated with the other existing alliances (Upham 1982).

Contrasted with the explicitly political alliance model, Adams (1991) and Crown (1994) have forwarded models suggesting that widespread ideological developments created unity in architectural and ceramic patterning across areas that were otherwise politically independent. Adams argues that the Katsina Cult became an important structuring force during the Pueblo IV period and contends that the cult was adopted to facilitate integration and cooperation in recently founded communities that contained “immigrants from divergent social and political backgrounds” (1991: 186). Adams (1991) argues that the Katsina Cult developed at about A.D. 1275 in what he calls the upper Little Colorado (which includes, in the terminology used here, the Upper Little Colorado, Silver Creek, and portions of the Arizona mountains). At about A.D. 1330 a more “rain-oriented” and iconographically identifiable modified version of the cult spread from Hopi to the Rio Grande (Adams 1991).

Crown (1994) has argued for the existence of a more generalized Southwestern Cult involving processes operative at a much larger scale than those of Adams’s Katsina Cult but with critical transformations at similar dates. The spatial scale of Crown’s study encompasses portions of all three major culture areas (Hohokam, Mogollon, and Anasazi), and she concentrates on a single material class, Salado Polychrome ceramics (1994). The development of the Pinedale design style horizon, a tradition she argues resulted from the interaction of Tusayan-Kayenta migrants and populations in areas adjacent to the Mogollon Rim, occurred at about A.D. 1280 (Crown 1994: 211; 1996). The Pinedale design style spread rapidly and is present on Salado Polychrome ceramics found throughout the Western Pueblo area. Crown argues that this style contains icons representative of participation in a Southwestern Cult concerned with fertility and weather control. The iconographic associations on these vessels demonstrably produced in a number of different areas (Crown and Bishop 1994) suggest a shared symbolic and ideological system rather than a common economic or
ethic phenomenon (Crown 1994, 1996). Crown argues that the Southwestern Cult encompassed most of the occupied Southwest in the fourteenth century. At about A.D. 1325, the unity seen in the Pinedale design style gives way to greater regional stylistic variation, which Crown (1994) suggests may relate to sect development within the Southwestern Cult.

SUMMARY

A number of important changes in settlement, interaction, iconography, ceramic decoration, and ideology occurred over much of the Southwest at about A.D. 1275. A second series of widespread settlement changes occurred about A.D. 1325, at which point stylistic differentiation characterized most areas and similar changes were beginning to take place in the Rio Grande. Processes of change and transformation were clearly operative at pan-regional levels. Are these macrolevel developments in the Western Pueblo area manifestations of a system of regional alliances, and if so, what were the operative units within the system?

Part of the reason for a lack of consensus regarding Pueblo IV regional developments may result from the manner in which regions have traditionally been constructed and interpreted. Prior to A.D. 1275, the settlement pattern is relatively dispersed throughout most Western Pueblo districts, the production and distribution of ceramic wares tend to be localized within districts, and average settlement size is relatively similar in all regions, although district-specific population density still differs. With the widespread abandonment and settlement reorganization at about A.D. 1275, two significant changes occur: (1) population densities and settlement size differences become more marked, and (2) the association of ceramic wares with districts breaks down as the volume of exchange between districts increases dramatically. Despite these significant structural changes, districts continue to form the basis of interpretive frameworks in both the alliance and ideological models. A closer examination of districts suggests they may not be organizational entities and that regional system or alliance terminology and concepts may not be the most productive way to investigate Pueblo IV interaction dynamics. A few examples, showing significant differences between sites within a single district and between adjacent districts, illustrate the problems of continued application of region-specific conceptions to the interpretation of Pueblo IV patterns.

REGIONAL INTEGRATION?

Data from the Upper Little Colorado district (Map 4.1) provide reason to be cautious about treating Pueblo IV settlement clusters (i.e., districts) as political entities or even about viewing them as homogeneous zones of interaction. Similar styles of hearth, kiva, and room construction and plain-ware ceramic manufacture characterize this area. All sites are located on low rises adjacent to the river, suggesting a similar adaptive strategy that may have included small-scale riverine irrigation. Proximity, continuity in material culture, and an apparent lack of population influxes suggest an area within which regular interaction might have been concentrated. When one considers the size of each site (about 100 rooms), a social network to ensure demographic viability would probably have been required, and the possibility that the Upper Little Colorado area was organized as a single political entity seems reasonable (Upham 1982).

A concern I have with treating this district as a single entity is that both spatially and in terms of nonlocal interaction there appears to have been an internal division. In both Early and Late Pueblo IV times, a gap of about ten miles separates sites near St. Johns and a group located further south. The spatial division is more pronounced in Early Pueblo IV, but it is most readily reflected in decorated ceramic assemblage differences from two Late Pueblo IV sites from which we have quality excavated data. Table Rock Pueblo, located just outside St. Johns, was almost completely excavated in 1958 (Martin and Rinaldo 1960). Rattlesnake Point Pueblo was excavated by Arizona State University field schools for three seasons, resulting in test or complete excavations in thirty-one of the estimated eighty-five rooms, a large kiva, a small plaza, and midden deposits (Duff and Kintigh 1993; Duff 1995). The Table Rock data are reported for the site as a whole (Martin and Rinaldo 1960: table 2), and I have aggregated the Rattlesnake Point data similarly for comparison (Table 4.2).

The Upper Little Colorado district is problematic because it is not associated with the production of a unique set of decorated wares during Pueblo IV, potentially disqualifying it as a legitimate branch in Colton’s terms. All of the wares of the day (late White Mountain Red Ware, Zuni Glaze Ware, Cibola White Ware, Salado Polychrome [Roosevelt Red Ware, and Hopi Yellow Ware) have been recovered from these sites, although a uniform plain-ware tradition is present across the district. Striking differences are found between the Table Rock and Rattlesnake Point decorated assemblages (Figure 4.1). Table Rock’s assemblage consists of almost 20 percent Hopi Yellow Ware, compared with only a few sherd s from Rattlesnake Point. Even more unusual, the proportion (about 50 percent) of Salado Polychrome in the Table Rock assemblage is about three times that in the Rattl-
These assemblages suggest the two contemporaneous sites pursued very different interaction strategies and participated in different networks. The amount of Hopi Yellow Ware at Table Rock suggests strong ties with residents of the Hopi district, about 120 miles to the north. Residents of Rattlesnake Point appear to have maintained stronger ties with people in the Silver Creek sites, producers of late White Mountain Red Ware (Triadan et al. 1997). If decorations on pots mean as much as we think they do, the finding that assemblages from the two sites were dominated by different (probably locally produced) wares suggests a very real distinction or division. At the same time, local interaction occurred among residents of these proximate sites. Evidence of local interaction may be masked by the very ceramic data used to assess integration. The Zuni Glaze Ware found at Table Rock and the Salado Polychrome recovered from Rattlesnake Point may have resulted from local interaction among these residents. Plain-ware ceramics may also have circulated locally. Preliminary compositional results support this suggestion, and investigation of patterning at this scale may help to determine the nature and strength of relationships between residents of proximate sites that otherwise seem fairly different.

Other Pueblo IV examples suggest that different regional interactions by residents of sites in the same vicinity may not have been isolated situations. In the Silver Creek district, Haury noted that Hopi

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<td>(14.5%)</td>
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<tr>
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<td>8</td>
<td>10</td>
</tr>
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<td>658</td>
</tr>
<tr>
<td>Tonto Polychrome</td>
<td>862</td>
<td>230</td>
</tr>
<tr>
<td>Indeterminate Salado Polychrome</td>
<td>602</td>
<td>15</td>
</tr>
<tr>
<td>Hopi Yellow Ware</td>
<td>(19.1%)</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Jeddito Black-on-yellow</td>
<td>795</td>
<td>24</td>
</tr>
<tr>
<td>Skyatki Polychrome</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Zuni Glaze Ware</td>
<td>(23.0%)</td>
<td>(54.2%)</td>
</tr>
<tr>
<td>Heshotauthla Polychrome</td>
<td>94</td>
<td>884</td>
</tr>
<tr>
<td>Kwakina Polychrome</td>
<td>503</td>
<td>1841</td>
</tr>
<tr>
<td>Pinanawa Glaze-on-white and Red-on-white</td>
<td>279</td>
<td>386</td>
</tr>
<tr>
<td>Kechipawan Polychrome</td>
<td>88</td>
<td>288</td>
</tr>
<tr>
<td>White Mountain Red Ware</td>
<td>(3.4%)</td>
<td>(11.8%)</td>
</tr>
<tr>
<td>Pinedale Black-on-red and Polychrome</td>
<td>3</td>
<td>130</td>
</tr>
<tr>
<td>Fourmile Polychrome</td>
<td>139</td>
<td>612</td>
</tr>
<tr>
<td>Cibola White Ware</td>
<td>(7.1%)</td>
<td>(19.1%)</td>
</tr>
<tr>
<td>Tularosa Black-on-white</td>
<td>90</td>
<td>279</td>
</tr>
<tr>
<td>Pinedale Black-on-white</td>
<td>210</td>
<td>918</td>
</tr>
<tr>
<td>Decorated Total</td>
<td>4,197</td>
<td>6,275</td>
</tr>
<tr>
<td>Undecorated Total</td>
<td>17,006</td>
<td>19,608</td>
</tr>
</tbody>
</table>

Note: Table Rock data from Martin and Rinaldo 1960, Table 2, although indeterminate Black-on-white and Puerco Black-on-white are counted here as Pinedale Black-on-white, a type they did not recognize.

Table 4.2. Cumulative decorated ceramic counts for all excavated contexts from Table Rock and Rattlesnake Point Pueblos.
Yellow Ware was more prevalent at Fourmile Ruin than at Showlow, and Zuni Glazes were more frequent at Showlow than at Pinedale (Haury and Hargrave 1931: 43–44, 71). At the Hopi site of Kokopinyama, dominated by local Hopi wares, Hargrave comments that Zuni Glazes were more common than White Mountain Red Ware (Haury and Hargrave 1931: 119). In the Middle Little Colorado district, sites thought to be settled by migrants from the south (Chevelon and Homol'ovi I) maintained stronger social ties with southern sites as measured by Zuni Glaze Ware and White Mountain Red Ware ceramics (Adams 1996, personal communication; Gladwin 1957). The neighboring residents of Homol’ovi II were apparently very focused toward the Hopi Mesas, with Salado Polychrome, Zuni Glaze Ware, and White Mountain Red Ware combined representing less than 1 percent of the decorated assemblage (Hays 1991). Near Petrified Forest, H. P. Mera noted greater frequencies of Zuni Glaze Ware at Wallace Tank than at the Puerco Ruin (1934: 20). A similar situation appears to characterize some Tonto Basin sites. Thus I suggest the contrasting patterns of regional interaction indicated for the Upper Little Colorado district are not unique, although differences may be more extreme than those in other areas.

The Zuni region presents a stark contrast to the Upper Little Colorado district example. Throughout Pueblo IV, decorated ceramics at Zuni consist entirely of Zuni Glaze Wares and Cibola White Ware. Tabulation of surface and excavated collections from forty-five Zuni sites reveals no Hopi Yellow Ware, late White Mountain Red Ware, or Salado Polychrome except at Protohistoric sites (Kintigh 1985: appendix). Interaction appears to have been concentrated within the Zuni region during Pueblo IV. Typological analysis, however, cannot detect internal interactions, and internal divisions similar to those noted for the Upper Little Colorado district may have been present. Settlement spacing within the Zuni region suggests at least two internal groupings. A similar pattern appears to characterize the Hopi Mesas, where sites are dominated by a single decorated ware but mesa-specific settlement groupings probably signal internal divisions similar to contemporary distinctions. Ceramic production and regional interactions apparently differed by mesa during Pueblo IV (Bishop et al. 1988).

**Discussion**

Regional interaction in the Pueblo IV period has a strong demographic component, and consideration of some properties of scale may clarify the nature of the relationships. Drawing on ideas from Peter Blau (1977), I consider two structural conditions of populations and their implications. The first is heterogeneity, defined as the number of different groups and how populations are distributed among them. The second is size, or population, which is a property of specific groups.

The structural properties of regions dramatically affect how influential interactions are to group members. For example, if 10,000 people were living in the Zuni region and 1,000 in the Upper Little Colorado district and 100 social transactions occurred between members of each group that resulted in some type of material transfer, such as a decorated vessel, the significance of this phenomenon differs depending upon which group one uses as a reference (Blau 1977: 21). For the Zuni participants, less than 1 percent of the overall population had a direct social transaction with a member of a neighboring group; an overwhelming majority of the population had little or no interaction with nongroup members. Conversely, 10 percent of the occupants of the Upper Little Colorado district interacted with nongroup members. This is a simple property of group size, and one could just as easily use villages as regions, but the idea is the same. Given differing group sizes, transactions between groups disproportionately involve, and presumably affect, members of the smaller group. The larger the difference between group sizes, the greater the differential impact (Blau 1977: 19–30).

Consideration of heterogeneity, defined as the distribution of people among groups (Blau 1977: 77), is also useful. With increased heterogeneity there is generally a relaxation of social rules that inhibit intergroup interactions (Blau 1977: 79–80). In fact, two divergent trends characterize group interactions: Small groups tend to interact with greater numbers of other groups and to make social adjustments to facilitate these transactions; larger groups tend to become more insular and to refrain from out-group associations (Blau 1977).

At some level the fact that a relatively trivial amount of non-Zuni pottery is found at Zuni settlements during Pueblo IV is both a function of how much trade would be needed for us to notice it and of social conditions at the level of the region. A similar situation prevails for many sites in the Hopi Mesas district and probably accounts for the relatively small frequency of imports at Homol’ovi II. In contrast, in a small district such as the Upper Little Colorado, relatively little interaction would have had a disproportionately greater effect. This point has at least two interesting implications. The first is a function of size: It takes relatively fewer social transactions involving pottery exchanges
obvious ceramic differences. Smaller groups of settlements may substitute for the Upper Little Colorado, may represent cooperatively organized action-based regions. Perhaps we may be considering color schemes (Crown 1996) may have served to both differentiate and integrate localized groups. The sect development suggested by Crown (1994) may have occurred at a much smaller scale than the originally suggested.

Conversely, although interaction seems to have been concentrated within the Hopi and Zuni regions, there may also have been internal organizational or political divisions that are masked by the lack of obvious ceramic differences. Smaller groups of settlements may constitute the units we are interested in examining. Clusters of one to three sites, similar to the north-south division tentatively identified for the Upper Little Colorado, may represent cooperatively organized settlements. The scale of supracommunity organization will be difficult to discern in these areas because of the similarities in material culture, but some fine-scale resolution may be possible.

### Table 4.3. Cumulative room-count estimates by district

<table>
<thead>
<tr>
<th>District</th>
<th>Early Pueblo IV</th>
<th>Late Pueblo IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson Mesa</td>
<td>795</td>
<td>385</td>
</tr>
<tr>
<td>Middle Little Colorado</td>
<td>900</td>
<td>1,800</td>
</tr>
<tr>
<td>Arizona Mountains</td>
<td>1,100</td>
<td>1,890</td>
</tr>
<tr>
<td>Silver Creek</td>
<td>600</td>
<td>555</td>
</tr>
<tr>
<td>Upper Little Colorado</td>
<td>660</td>
<td>540</td>
</tr>
<tr>
<td>Puerco River</td>
<td>2,100</td>
<td>125</td>
</tr>
<tr>
<td>Subtotal—all of the above</td>
<td>6,155</td>
<td>5,495</td>
</tr>
<tr>
<td>Zuni</td>
<td>5,625</td>
<td>3,430</td>
</tr>
<tr>
<td>Hopi Mesas</td>
<td>3,060</td>
<td>2,580</td>
</tr>
</tbody>
</table>

to skew decorated ceramic assemblage proportions at smaller sites. At the same time, behaviorally these interactions probably have a more profound social influence. Two different kinds of regional interaction appear to have been present and associated with different kinds of demographic structures during the Pueblo IV period.

Demographic patterning and differences can be evaluated with cumulative room-count estimates (Table 4.3). To produce these figures, half of the room-count totals from sites occupied throughout Pueblo IV were assigned to each of the Early and Late Pueblo IV periods; otherwise, the entire room-count estimate of a site was assigned to either the Early or Late Pueblo IV period. The Hopi and Zuni room counts (about 2,600 to 5,600) can be used as a proxy for the demographic scale of internally interacting regions. No other district approaches this range, and a sum of room counts from all other districts is between 5,600 and 6,100 rooms during each period. Thus major demographic differences exist between Hopi and Zuni on the one hand and all of the other districts on the other.

These room-count parameters suggest two possibilities for interaction-based regions. First, we may be misidentifying social scales of interaction by subdividing the central part of the plateau. Perhaps we should consider the Silver Creek, Anderson Mesa, Upper and Middle Little Colorado, Puerco River, and some of the area below the Mogollon Rim to be a single "region" characterized by a confusion of cross-cutting relationships among distant sites. The history of migration in the Western Pueblo seems to have been concentrated within this area, and this common historical background may have fostered structural conditions favoring out-group interactions (after Blau 1977). This larger entity appears united by properties attributed to the Katsina Cult (Adams 1991), the Southwestern Cult (Crown 1994), or both. If we consider the presence of Pinedale design style on wares other than Salado Polychrome, this larger region appears even more internally coherent.

Local differences in the popularity of different wares and their associated color schemes (Crown 1996) may have served to both differentiate and integrate localized groups. The sect development suggested by Crown (1994) may have occurred at a much smaller scale than the originally suggested.

I have argued that the timing of settlement changes and other critical developments was roughly contemporaneous over a large portion of the northern Southwest. At the same time, I have tried to show that what we consider to be regions are not as uniform, at least in terms of their interactions, as we might expect. The proposed division of Pueblo IV into Early and Late periods suggests that the demographic scale of many regions was substantially smaller than has previously been assumed (e.g., Lightfoot 1984; Upham 1982), a conclusion that should be sustained even if the absolute dating requires modification. The implications for models of regional complexity and settlement hierarchy are obvious, but these downward revisions of population estimates may help in our attempts to construct meaningful regions.

Given the present understanding of the Western Pueblo during later prehistory, there appears to be no good reason to believe that anything like a traditionally defined system of regional alliances was operative. When contemporaneity is factored in, settlement clusters contain fewer sites, and the boundaries within and between them are less obvious. Between sites, relationships were complex and variable, but we need to build models of regional organization carefully. Supracommunity organization appears to have existed at a scale much smaller than the district or region, and it may more commonly occur at
the level of one or a few sites. At the same time, the scope of the relationships entered into by members of communities often exceeded the scale of analytical districts. This tantalizing patterning is the stuff alliances and regional systems are built of, but in trying to untangle these various relationships, regions themselves are difficult to define. The suggestion of a demographic or interactive region tentatively forwarded here does not imply political unity but does appear to map important social relations. Whether we want to retain the notion of a regional system or to simultaneously identify and explore relationships that occurred at many different levels or scales, the interpretive emphasis on regional-scale processes will continue to stimulate research into late prehistory in the Western Pueblo area.

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