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CHAPTER 13

SUMMARY DISCUSSION: KEY POINTS AND THEIR ECOLOGICAL AND SOCIOCULTURAL IMPLICATIONS

Human Ecological Patterns Through Time

The data recovered at Mitchell Ridge indicate that subsistence was based importantly on fishing, with significant inputs from hunting (deer) and trapping of hispid cotton rats. Plants can be inferred to have been highly significant, since, as discussed in Chapter 5, protein-rich caloric intake from fish and red meat would have needed to be balanced by carbohydrates. In fact, the accounts of Cabeza de Vaca and De Bellisle both indicate an important dietary role on the upper coast for starchy roots and tubers.

Occupation at Mitchell Ridge was probably intermittent, and recurrent on a seasonal basis. The relevant data are limited, but the seasonality analyses of oysters and fish otoliths suggest an emphasis on fall-winter occupation. This fits with Cabeza de Vaca's observation that his Isla del Malhado (which may or may not have been Galveston Island but was almost certainly somewhere in the upper coast area) was occupied during the fall and winter, with subsistence relying heavily on fishing and the gathering of aquatic roots. The pattern may in fact be analogous to that suggested archaeologically and ethnohistorically for the central Texas coast, where spawning-related fish concentrations are suggested to have attracted fall-winter shoreline occupation by relatively large human population aggregates (Ricklis 1988; 1990; 1992b). Fish were certainly available year-round, but fall-winter concentrations would have reduced risk in heavily relying on fishing, particularly if group sizes were seasonally large, as they probably were during the fall and winter on the central coast. Winter population aggregations of humans are posited by Aten for the inland areas of the upper Texas coast, and perhaps on barrier islands as well. Dering and Ayers (1977) suggest shoreline aggregation on barriers at this time of year, based on Cabeza de Vaca's observations.

There is no direct evidence concerning the size of groups that occupied Mitchell Ridge. The presence of probable domiciles, indicated by small round or oblong post mold patterns, and what were probably storage pits (Feature 9 and perhaps other smaller pits in the Block Excavation and Area 3) suggests that occupation of the site involved more than very short-term residence. In conjunction with the very limited ethnohistoric data provided by Cabeza de Vaca (discussed in Chapter 4) it can be at least suggested that sizeable groups, perhaps of up to several hundred people, lived seasonally at Mitchell Ridge and other locales on upper coast barrier islands. Certainly the quantity and range of artifacts recovered, and the presence of discrete cemeteries, suggest that the site (and presumably the island in general) saw occupation geared to more than short-term resource extraction activities.

Our data provide some insight into diachronic patterns of occupation of Mitchell Ridge and, inferentially, suggest some long-term trends in the prehistoric human ecology of the Galveston Bay area. Use of the site was apparently infrequent and/or small-scale prior to the Initial Late Prehistoric Period. Only the 1970s burial 10 dates prior to ca. A.D. 800, and occupation probably intensified (in the sense at least of becoming more frequent), during the Final Late Prehistoric Period. Most radiocarbon-dated features pertain to this period (see Fig. 12. 1), and burials are slightly more abundant during the Final Late Prehistoric than the Initial Late Prehistoric. Considering that the Final Late Prehistoric Period (ca. A.D. 1250-1500) lasted about half as long as the Initial Late Prehistoric (ca. A.D. 700-1250), the greater number of radiocarbon dates for the Final Late Prehistoric suggests a markedly increasing frequency of site use after ca. A.D. 1250. In short, the available radiocarbon data suggest only sporadic occupation prior to ca. A.D. 700/800, and increasingly frequent and/or extensive use of Mitchell Ridge by the Final Late Prehistoric.

Time-diagnostic lithics also provide some reasonably reliable indicators of the relative intensity of site use over the long-term. Dart points, which probably predate ca. A.D. 700 or so (in light of lithic chronological data from the larger surrounding Texas region), are extremely scarce at the site: The only extant specimens which actually appear to represent dart points (as opposed to other relatively large, thick bifacial tool forms) are two fragments in the 1970s collection (see Chapter 6). All other definite projectile points from the site are arrowpoints, suggesting relatively light occupation prior to the Initial Late Prehistoric. Moreover, the Final Late Prehistoric Period Perdiz type is far more abundant than the Scallorn type, which elsewhere in Texas is diagnostic of the earlier part of the Late Prehistoric, ca. A.D.

700-1250/1300. Only four Scallorn points are known from the site (1 from the 1992 Block Excavation, 1 from the 1970s excavation, 2 from Burial 12 in the 1970s Cross Area, probably the cause of death). In marked contrast, the Perdiz type is represented by 35 specimens, not including a number of Perdiz-like points and several probable Perdiz on which the diagnostic stem is broken off but which otherwise resemble the type in size and shape.

Ceramics are also helpful as a very general indicator of the chronology of site use. It is doubtless significant, for example, that in the large ceramic collection from the site, there are no specimens of what are clearly types representing the earliest part of the ceramic continuum in the upper Texas coast (i.e., Tchefuncte ware, Mandeville Plain, or cord-mark-decorated Goose Creek pottery). Though these early types are in general not common at sites in the early part of the ceramic sequence (see Aten 1983a, Figure 13.1), their presence is well documented in Aten's total ceramic sample of over 16,000 sherds from 71 site components. The fact that not a single specimen is present in the still larger Mitchell Ridge sample of over 26,000 sherds can be taken as indicative of scant occupation of the site in the earliest part of the Ceramic Period.

Two basic alternative hypotheses can be formulated to explain the chronology of occupation at Mitchell Ridge:

1. The site (and, by extension, Galveston Island as a whole) may not have been particularly attractive for habitation prior to the Initial Late Prehistoric, because of ecological factors. The island may have still been an unstable landform subject to frequent washover, marked by numerous, shifting tidal passes connecting a still incipient lagoonal environment in West Bay with the open Gulf of Mexico. Concomitantly, the local aquatic environment of West Bay and Eckert Bayou would as yet be an immature lagoonal system, and the highly protected, extensive shallows-- of the sort conducive to establishment of high primary productivity, extensive subaqueous vegetation and the establishment of dependent, high biomass of primary (molluscs) and secondary (fish) consumer populations-- may not yet have emerged. Extensive, shallow-water estuaries are far more productive in terms of aquatic biomass than open oceans (e.g. Odum 1971; Perlman 1980; see also discussions in Ricklis 1993a). If Galveston Island was not yet a stable, continuous barrier, the lagoonal systems may simply not have provided the kind of protected, resource-rich environment which was optimally suited to exploitation with a limited extractive technology. The available and/or accessible resource base may have been sufficiently limited or unreliable that prehistoric people did not perceive a favorable cost-benefit outcome in its occupation, insofar as the time and effort required to reach the island may not have made sense in terms of the potentially inadequate returns in subsistence resources.

2. Alternatively, the island may have been suitable for resource extraction, and thus for occupation, but people living on the mainland may have simply had no need to invest the time and effort required for its occupation prior to the Initial Late Prehistoric. In other words, according to a least-risk, least-effort strategy (e.g. Jochim 1981), the mainland provided a resource base which was adequate to sustain the standing human population of the Galveston Bay area. The converse implication is that increasing use of the island beginning in the Initial Late Prehistoric must reflect an increasingly unfavorable ratio of human population to environmental productivity on the mainland, either through (a) environmental deterioration and attendant reduction of available food resources, or (b) growth of areal human population to the point at which stress was placed on existing resources and thus on the adaptive viability of the existing human ecosystem. Since there is presently no evidence for a decline in environmental productivity after ca. 2000 B.P., either in the Galveston Bay area (e.g. Aten 1983a) or on the western Gulf coastal plain in general (e.g. Story 1985b), and since, if anything, the general productivity of Texas coastal estuaries was probably increasing after ca. 2000 B.P. (see Ricklis 1993a), the latter explanation at present seems the more reasonable. This is in fact in line with Aten's (1983a) suggestion of a directional increase in upper Texas coast human population after ca. 1800 B.P.

Hypothesis 1, which posits a very minimal occupation of Mitchell Ridge prior to the Initial Late Prehistoric due to an immature barrier island/lagoonal environment, does not appear to fit with the geoarchaeological situation observed at Mitchell Ridge. As noted in previous chapters, all intact aboriginal occupational debris was found *within* the dark brown, fine sand soil which blankets the site. It was never found at the base of the soil, that is, resting at the unconformable contact with the underlying, wave/storm surge-deposited light colored sand/shell hash. Thus it is apparent that the major change in sediment depositional regime which represents a shift from high-energy wave deposition to eolian deposition of fine sands (with high organic content involving establishment of permanent vegetation, probably mainly

grasses), took place *prior* to the first intensive occupation of the site. Since the shift in depositional regime must represent a changed relation between sea level and island topography (i.e., the core of the island was now higher than the level generally attained by storm surges, and a source for eolian sands was already present as the island's seaward ridge and swale topography had begun to develop), it is likely that the island was essentially a mature barrier some time considerably prior to initial intensive occupation; enough time elapsed between the attainment of the essentially modern landform and intensive human occupation for the lower part of the organic-rich fine sand cumulic soil to develop.

This interpretation is in accord with general assumptions concerning the geologic history of Galveston island (and the Texas barrier islands in general), which posit mature barriers along the coast by ca. 2500 B.P. (Fisher et al. 1972; Brown et al. 1976). It also accords with geoarchaeological inferences for the central Texas coast, where the available data indicate increasing intensity of shoreline site occupation based on exploitation of a high estuarine biomass-- under basically modern estuarine conditions-- by ca. 2000 B.P. (Ricklis 1993; Ricklis and Cox 1991). Intensive fishing emerged on the central coast by about this date, and this is inferred to reflect the emergence of extensive, vegetated estuarine shallows behind a more or less mature barrier system. Thus, while additional research is certainly in order concerning the chronology of ecosystemic evolution of the upper coast estuarine environment, the data we have at present tend to support hypothesis 2.

In sum, Mitchell Ridge saw its first major occupation ca. A.D. 700/800, and an apparently increasing intensity of occupation in the Final Late Prehistoric, a trend inferentially keyed to (a) a growing areal population and (b) a geographic expansion of resource exploitation to include barrier islands. The question then arises as to what were the human ecosystemic factors which led to the inferred population growth?

Aten (1983a) has suggested that a catalyst for population growth was the introduction of new technologies into the areal coastal adaptation, technologies which increased the efficiency of resource extraction and processing and thus the human carrying capacity of the environment. The archaeologically demonstrated introduction of the bow and arrow and pottery may constitute increasing efficiency in food procurement and processing, respectively. Aten also suggests that increased efficiency in fish procurement may have resulted from the introduction of artificial devices such as weirs.

Alternatively, environmental change may have played a crucial role in an increasingly productive human ecosystem. With the attainment of essentially stable, modern sea level on the Texas coast after ca. 3,000 B.P. (e.g. Fisher et al. 1972, Brown et al. 1976; Paine 1991), ongoing wave action and longshore drift deposited sands and shell to form the modern barrier islands which, in combination with sedimentation of estuarine bays and lagoons, created protected, extensive shallows, ideal nursery grounds for important fish species such as black drum, trout, redfish and others (Ricklis 1993a). Under these conditions, the productive potential of the coastal human ecosystem may have increased dramatically, initiating a trend toward growing regional populations. At a certain threshold of population density, the barrier islands would have become an attractive, additional resource zone to be exploited, thus relieving the cumulative stress placed on the resource base of the mainland and the shoreline shallows directly accessible from mainland habitation sites.

Cultural Tradition and Change at Mitchell Ridge

The combined findings from occupation and burial areas at Mitchell Ridge provide a body of information which elucidates patterns of cultural continuity and change over time. At a very general level, the non-perishable material culture from the occupation areas of the site show conservative tendencies, and at the same time evidence technological change. The ceramics, though apparently influenced/inspired by Lower Mississippi Valley-south Louisiana ceramic stylistic tradition, are of the same sort of simple, functional wares reported from numerous other sites in the Galveston Bay and adjacent areas, and obviously represent one site-specific expression of the regional ceramics which largely define Story's (1990) Mossy Grove tradition. On the other hand, lithic artifact forms reflect the participation of local folk in the larger processes of technological change which were taking place throughout a much larger, encompassing region. Though few specimens were found at the site, the Scallorn type arrowpoint appears to pre-date the Perdiz type, judging by the Initial Late Prehistoric age of Burial 12 in the Cross area, with which Scallorn points were associated. As elsewhere in Texas (Prewitt 1981, 1985; Turner and Hester 1993), the Perdiz type apparently replaced Scallorn (and in some places, other arrowpoint types) in the latter part of the Late Prehistoric, as evidenced at Mitchell Ridge by the predominance of the type in apparent

association with features in the Block excavation which date to the Final Late Prehistoric Period. Also part of the Final Late Prehistoric lithic assemblage at Mitchell Ridge are expanded base drills made on blades or long flakes, prismatic blades and, though uncommon, thin bifacial knives, all of which typify the latest prehistoric assemblages elsewhere in Texas (e.g., the inland Toyah Phase or Horizon [see Hester 1975; Prewitt 1981; Black 1986; Highley 1986] and the central coast Rockport Phase; see Ricklis 1992b).

Elsewhere in Texas, this Final Late Prehistoric lithic assemblage-- Perdiz points, blades, expanded-base drills, bifacial knives-- appears ca. A.D. 1250/1300, in association with more or less abundant quantities of bison bone. It has been suggested, therefore, that the rather abrupt appearance of the assemblage in the archaeological record is in some basic way related to bison hunting, either through (a) immigration into Texas of outside peoples, perhaps from points north or west (Prewitt 1985; Johnson n.d.), who were following southward-expanding bison herds (see Dillehay 1974; Creel et al. 1989; Huebner 1991b) and bringing with them the new technological package, or (b) though non-migrational spread of a lithic tool kit which was particularly well-suited to the hunting and processing of large game (e.g. Hester 1975; Black 1986; Mallouf 1987). In the central Texas coast Rockport Phase, the same shift is discernable, with the lithic assemblage appearing ca. A.D. 1250-1300, in association with bison bone (Ricklis 1992a).

The findings at Mitchell Ridge appear to provide an upper coast analog, since we have Perdiz points, prismatic blades, expanded-base flake drills and bison bone showing up in the Block Excavation area in association with radiocarbon dates clustering in and around the fourteenth century A.D. The unifacial end scrapers and thin bifacial knives, relatively common at inland sites, are very scarce at Mitchell Ridge, however. Only a single end scraper, from the 1970s excavation, is in the lithic sample from the site, and there are only two thin bifacial knives (one of which was with an adult male burial, Feature 86, dated to the Final Late Prehistoric). On the other hand, scrapers and knives are part of the general upper coast lithic assemblage (see Aten 1983a), and the presence of these tool forms, including the "classic" alternately beveled knives often found on inland sites with bison bone, were recovered at the Addicks Reservoir just west of Houston (Wheat 1953), in the sort of upland prairie environmental setting where large game hunting must have been focused. Since beveled knives and end scrapers are generally thought to have served, respectively, in the skinning of large game and in hide processing (e.g. Creel 1991), it is not surprising that they are particularly scarce at Mitchell Ridge, where there was a major economic focus on fishing; inferably, these items are rather function-specific tool forms which can be expected to occur primarily at mainland sites where activity revolved significantly around the procurement and processing of large game animals (once again, we can turn to De Bellisle's early eighteenth century observations, which provide ethnohistoric documentation of bison hunting on the coastal prairies by the native people of the Galveston Bay area). In short, then, the data from Mitchell Ridge indicate that the site's occupants were participating in some of the same shifts in subsistence regime and associated technologies which are evidenced elsewhere within the larger region which is now Texas.

Certain classes of data recovered at Mitchell Ridge shed light on the nature of aboriginal culture beyond the material dimension of subsistence economy and associated technological patterns. Primarily, this kind of information is provided by the burials at the site, features which were doubtless created within a cultural matrix of ritual and an attendant super-mundane belief system. Certain pertinent points have been touched upon in the previous pages; here they are explicitly enumerated and discussed.

1. Assuming that material remains from occupation areas represent different dimensions of aboriginal culture-- the technoeconomic or material on the one hand and the ritualistic on the other-- the occupational and burial artifact assemblages should show differences which reflect those different dimensions of behavior and cognition. This is the case at Mitchell Ridge and, in fact, there is a striking dissimilarity between the two assemblages.

The artifact assemblage from domestic debris deposits is dominated overwhelmingly by ceramics and certain kinds of redundantly occurring lithic forms, mainly arrowpoints. Both pottery and arrowpoints are remarkable for their absence in burials (excepting the 2 Scallorn points in Burial 12, which were almost certainly the cause of death rather than offerings). These commonly occurring tool forms, designed for food procurement and processing, were apparently not regarded as suitable items with which to express non-mundane concerns or concepts. Conversely, one of the most common classes of burial offerings, shell ornaments, is remarkably under-represented in the domestic debris: Only a single disk-shaped shell bead, from the 1970s excavation (and unprovenienced), can be assumed to come from a domestic context, compared to hundreds of conch, olive, and olivella beads from the burials. Interesting and perhaps significant as well is the fact that small bird bone beads, presumably ornaments, were found sporadically

in occupational areas, but none were found with the burials. Several much larger bird bone beads were found in burials (Features 85 and 86) but were not recovered from excavations in living areas. Also, as noted earlier, all of the bird bone whistles from burials were made from ulnae of whooping cranes, whereas the only two fragments of whistles from occupational debris (in the Block Excavation) are from smaller, heron-sized birds.

Overall, then, there seems to have been a significant dichotomy between the kinds of material culture produced for mundane, daily use, and that considered appropriate for use within a ritual or magico-religious context. The implication here is that the aboriginal occupants of Mitchell Ridge were possessed of a rather highly developed and thus cognitively circumscribed super-mundane belief system, whose material appurtenances were clearly defined and largely confined to use within specific ritual settings. This should not be interpreted to mean that mortuary offerings were necessarily and expressly produced only as burial goods; they may have been, and perhaps probably were, used in context other than mortuary ritual. However, given the rarity of items in the debris of daily life, it seems likely that their use was restricted largely to ritual contexts, and that they were disposed of within graves because of inherent magical or ideologically powerful properties.

The nature of the aboriginal belief system is, of course, largely unknown, and very difficult to discern, leaving aside pure speculation. We have briefly suggested in Chapter 11 that the presence of whooping crane whistles may be related to concepts concerning the final flight of the spirit (as articulated by Turpin, 1994), which seems reasonable in view of the consistent use of crane ulnae for whistle manufacture, the impressive nature of the bird, and the redundancy of whistles as mortuary objects at Mitchell Ridge and other sites in the surrounding region. Dreiss has suggested, in her discussion of the shell artifacts Chapter 11, that shell ornaments associated with the burials at Mitchell Ridge may have had significance beyond their immediate value in terms of labor investment. This makes good sense, considering, as noted above, the lack of such items in domestic debris deposits. Along with the presence of smoothed/polished freshwater mussel shell (most notably the large specimen resting on the chest of the individual buried in Feature 86), the bright and/or whitish color of shell ornaments may have had a symbolic significance, perhaps associated in some way with life or light. George Hammell, in an innovative exploration of the symbolic significance of beads and other brightly colored objects among the Iroquois and other Northeastern native American groups, suggests that quartz crystals and other bright white objects represented

> a psychobiological expression of human perception's and cognition's dependency upon qualities of lightness, brightness, transparency, visibleness and 'whiteness'. Light, bright, and white things are good to think (with). They are reflective substances, literally and figuratively" (Hammell 1983:14).

A similarly non-mundane significance may have been perceived in the whiteness or brightness of shell beads at Mitchell Ridge.

It is practically certain that the use of ochre in burials or on buried bodies had some kind of magico-religious significance. Red is a color of warmth, associated with life, and Aten (1983a) has suggested a possible red-black, life-death dichotomy in the belief system of the Akokisa and Karankawa. The placement of red ochre in graves on the bodies of the deceased may well have been intended as a material metaphor for life, and an affirmation of the rebirth of the individual, or the transference of his/her spirit, into an afterlife. The apparent solar symbol painted in masses of red and yellow ochre powder on the abdomen of the child in Feature 83 certainly suggests some kind of connection between the deceased and the power, light, warmth and/or life-giving properties of the sun.

Still, some of the burial goods consisted of artifacts which clearly must have served mundane functions in daily life (though they are a minority among the offerings). These include lithic tools (flakes and prismatic blades, drills, and a bifacial knife), bone points, and antler billets. These all come from contexts which suggest that they represent tool kits associated mainly with adult males. The Final Late Prehistoric Burials, Features 86 and 87, both contained clusters of flakes and/or blades with evidence of edge utilization, and a utilized chert prismatic blade was found with the Early Historic adult male burial in Feature 63. Feature 65, the burial of another Early Historic adult male, contained a suite of domestic tools including bone points, an antler billet of the sort generally used in flaking stone tools, and a chert drill (as well as iron tool and wrought nail fragments). It is probably relevant to note too that Burial 10

in the Cross Area, although much earlier in time and probably pertaining to an older mortuary tradition, was also an adult male buried with socketed bone points and what appear to be bone blanks and tools for the production of such points.

It would seem, then, that mundane items in burials represent collections of tools, either for use in some conceptualized afterlife situation or as items which highlighted the individual's role in life. The association of these items with adult males-- they did not occur with children or adult females-- suggests a gender/role correlation, and perhaps represents an attempt on the part of survivors to encourage continuity of personal identity or being (as expressed by his personal socioeconomic role) of the deceased in the afterlife. Thus, although the artifacts were mundane tools, their depositional context was a ritual one and they were probably intended to affirm basic beliefs about the nature of life and death.

2. The production of the various non-mundane items associated with burials was inferably contingent upon sufficient time and energy being available after the demands of subsistence activities had been met. At least some members of aboriginal society had to have had enough time to devote to labor-intensive activities such as the grinding, cutting and drilling of columella beads, and the procurement of whooping crane bone for whistles, not to mention the time invested in creating the intricate designs which adorn some specimens. By implication, it can be suggested that the subsistence patterns followed by the occupants of Mitchell Ridge must have yielded a favorable cost-benefit ratio as output (food/calories) to input of time in energy in the search for and procurement of food resources, and this generated sufficient surplus to permit some focus on non-mundane activities. This should not be unexpected in a coastal adaptive system involving reliance on a shallow-water, high biomass estuarine environment; worldwide, such environments are generally highly productive, and in places sufficiently so to provide a basis for sedentary life, or at least semi-sedentism, fairly dense hunter-gatherer populations, and the emergence of relatively complex societal organizations (e.g. Perlman 1980; Yesner 1980).

While it is advisable not to "over-interpret" our limited data on this point, it is worth noting that the various non-mundane grave goods evidence rather sophisticated levels of workmanship, and may very well represent some degree of part-time craft specialization, one indicator of internal differentiation within a socioeconomic system (beyond the most basic distinctions based on age and gender). Shell ornament production, at least the drilling of tubular columella beads, would presumably require a fairly sophisticated level of skill, the development of which would probably take some practice. Certainly, the intricate engraved decorations on some of the bird bone whistles, which are remarkably precise and free of mistakes, could not be executed at a first attempt by a complete novice.

3. As discussed in the preceding chapter, the variable placement of wealth as burial offerings correlates with age and sex groupings, and clusters according to spatially discrete cemeteries. Both patterns are probably indicative of status differentiation within aboriginal society. The age-sex related correlation, in which burial goods are overwhelming placed with adult males and subadults, as noted, appears to indicate a preferential treatment in death of men and children, and correspondingly less attention to women. Assuming that this reflects to some degree social relations among the living, status was more readily according to men and children than to women. Following the same line of reasoning, not all men were of equal status, since not all adult male burials contained material wealth. Differential male status has been discussed by Aten (1976, 1983a), who has presented archaeological evidence for variability in male mortuary status and ethnohistorical documentation indicative of leadership/authority roles for band headmen. This degree of role and status differentiation, rooted in social distinctions based on age and sex, and on personal achievement is, as Aten notes, in accord with expectations for an essentially egalitarian social organization.

However, our findings at Mitchell Ridge have suggested that aboriginal social organization may have been somewhat more complex than that, insofar as age/sex and achieved statuses may not have been the only basis for social distinctions. The abundance of burial offerings in the Area 4 cemetery, as opposed to the other cemeteries at Mitchell Ridge, is remarkable, with 91% of the graves containing offerings (compared to 20-25% in other cemeteries) and with the range of offerings including 24 classes of goods, compared to only one to three in other cemeteries. Although the number of individuals in each cemetery is not large, the facts that (a) the great majority of individuals with offerings are spatially segregated within one cemetery, and (b) the overwhelming bulk of burial goods from the site come from that cemetery, strongly suggests that Area 4 was reserved for some segment of society which was accorded greater wealth in death, and, presumably some kind of differential status during life.

The archaeological data cannot tell us the precise nature of the social distinction involved, and the

ethnohistorical record is too skimpy concerning social organization to provide much insight into the nature of societal segmentation which might be represented. At this stage of our knowledge of aboriginal culture in the area, about all that can be suggested is that the social organization was probably not strictly egalitarian, and involved some degree of institutionalized status ascription, perhaps involving certain lineages.

The origin of this sort of incipient hierarchical social structure is also impossible to define with presently available information. If the postulation that the upper Texas coast experienced a growing population during the Ceramic Period is valid, it would be expectable to find the emergence of a degree of internal sociopolitical complexity, as pressure on resources and territorial boundaries would have been a systemic catalyst for the emergence of a segment of society in which was vested a certain authority to control, or at least influence, the use of resource zones and perhaps even, to some extent, the distribution of the actual resources (e.g. Service 1971; Price and Brown 1985).

If such a need developed, the indigenous people of the Galveston Bay area would not have had to look too far afield for appropriate sociopolitical models. Relatively complex and hierarchical sociopolitical systems were operative among the Caddoan groups to the north (e.g. Perttula 1992), and had a long history among the populous Mississippian and proto-Mississippian cultures of the Lower Mississippi Valley and coastal southeast Louisiana (Phillips 1970; Neuman 1984). In fact, platform mounds, a diagnostic feature of Mississippian culture and presumably an indicator of sociopolitical hierarchy, are found as far west along the coast as south-central Louisiana (Weinstein and Kelly 1992; Neuman 1977; Fullen and Fullen 1987), close to, if not within, the traditional range of Atakapa-speaking groups who in turn were linguistically related to the Akokisa of the Galveston Bay area. If the Atakapa of Louisiana had ready access to cultural information concerning more complex modes of sociopolitical organization, or were even in a limited way participating in such patterns, it is not difficult to envision such information flowing along the coast to influence developments in the Galveston Bay area. Certainly, a very general pattern of influence from that direction is evidenced in the ceramics of the area, beginning in Tchefuncte times and continuing with the dissemination of Coles Creek stylistic influence. While all of this probably stretches our data to its interpretive limits, it does so in the direction which seems to be indicated by available information, and suggests significant lines of inquiry for future investigation into the kinds of cultural processes which may have been operative along the northwest Gulf coast.

4. A remarkable fact of the Mitchell Ridge burials, noted earlier but worth reiterating, is that each of the small cemetery groups was used for several hundred years, suggesting a deeply rooted linkage between people and place, and a strong oral tradition concerning proper locations for burial of the dead. The very extensive exposure, in 1992, of the western part of the site makes clear the fact that the burial clusters in Areas 1 and 4 were spatially discrete, and that, with the exception of only a single isolated burial (Feature 52 in Area 3), other burials were not present. Thus, the cemeteries in these areas were not simply fortuitous phenomena in which repeated interments create a false impression of intentional groupings of burials. The cemeteries are simply surrounded by too much ground which is devoid of burials to allow for any suspicion that they do not represent intentional clustering of graves. At the same time, too few individuals were interred in either Area 1 or Area 4 for the knowledge of where to place burials to have been acquired consistently through direct observation: Years or decades must have passed during which burials were not placed in any given cemetery. The pertinent knowledge concerning burial locations must have been maintained, then, by oral tradition, perhaps among a select lineage of shamans or some other specially designated set of individuals.

Also indicative of deeply rooted tradition are the headward orientations of the Mitchell Ridge burials. Beginning in the Initial Late Prehistoric Period and continuing into the Early Historic, bodies were interred with the heads oriented to the west or southwest, with virtual consistency. As noted in Chapter 12, this is a pattern which is apparently shared at sites to the south along Galveston Island and at least to the area of the Brazos River delta (i.e, at the Jamaica Beach and Shell Point sites), and which, judging from the chronological data from Mitchell Ridge, had a considerable time depth.

5. Finally, the burials dating to the Protohistoric and Early Historic Periods present a remarkable body of information relevant to cultural and demographic change during the period of European contact. In combination with the historic documentation, the data indicate that local people were involved in the deerskin trade, probably by the second quarter of the eighteenth century. More surprising is that goods of European manufacture were reaching the area in Protohistoric times, probably by the first half of the seventeenth century, as indicated by the large blue-green glass beads (Ichtuknee Plain) in Features 82 and

83. Such items may have been a great rarity in the area so early on, and it may be that their presence in burials in Area 4 is one more indication of a special status for the individuals buried there. Marvin Smith (1987) has pointed out that early European goods tended to be controlled by elite groups in the Southeast, and to have been buried with the dead accordingly, and it is possible that Features 82 and 83 present an analogous situation (though this does not imply a similar level of sociopolitical evolution on the upper Texas coast). The source of these early glass beads cannot be pinpointed, but the common presence of the type in the Southeast, discussed in Chapter 8, hints at an origin in the early Spanish settlements and missions of the eastern Gulf coast. Direct contact between Spaniards and Galveston Bay people is perhaps unlikely at this date, but trade goods could have reached the latter people through indirect means, perhaps via down-the-line trade between indigenous coastal peoples.

The probable indications in the Early Historic mortuary data of eighteenth century epidemic disease and increased mortality, and biological mixing of peoples, have been discussed by Powell in Chapter 9, as well as in Chapter 12, and need not be reiterated in any detail here; the biological and cultural mixing of peoples during Early Historic times is one of the more striking aspects of the burial data, and affirms the highly volatile sociocultural situation created by European colonization of the Gulf coastal plain as indicated by the historic record and by archaeological data for the Southeast. Particularly interesting is that the mixing process apparently involved people who were the offspring of native-Euroamerican matings or marriages. If the small Early Historic burial sample from Mitchell Ridge is at all representative of the genetic makeup of the population, the local population by the mid-eighteenth century was already the product of considerable miscegenation. More bioarchaeological data will be required, however, in order to assess the overall degree of biological mixing by this time, considering the small sample size from Mitchell Ridge.

Finally, the presence of anomalous cultural traits of probable or possible Southeastern origin, such as intentional cranial deformation and structural enclosure of mortuary space, may provide one more linkage between the Galveston Bay area and points east. Although these traits appeared as the result of disruptions of traditional patterns, they could reflect long-established lines of communication/interaction along the coast which linked Galveston Bay area people to the Atakapa, and perhaps less directly, with other groups further removed.

In sum, the findings at Mitchell Ridge are suggestive of an aboriginal lifeway deeply rooted in tradition but also affected by, and responsive to, change. They also suggest a rather more complex cultural system than has generally been ascribed to the native peoples of the Texas coast, a culture which probably involved a complex belief system (of which we so far have only glimpses), a measure of aesthetic sophistication in the production of ritual artifacts and, if the present interpretation of the burial data has validity, at least an incipient hierarchical social organization heretofore unrecognized in the archaeological or ethnohistorical records for the upper Texas coast.

Despite a strongly traditional way of life, evidenced in what seems to be a redundant, long-lived ceramic tradition and in a long-lived mortuary tradition, the upper coast people who resided at Mitchell Ridge were interconnected with people and developments in the larger world of which they were a part. They found inspiration for their ceramic stylistic expressions from pottery traditions to the east, and shared in a Late Prehistoric lithic technological pattern with peoples of inland areas. During Protohistoric times, they had limited access to European materials which probably came from some considerable distance, and they seem to have quickly responded to the perceived opportunities of the Early Historic deerskin trade, once French traders began to operate along the northwest Gulf coast. Under the pressures attending colonization, particularly the drastic impacts of disease and population loss, Galveston Bay area people accepted outsider refugees into their local society, judging from the presence of anomalous burials and individuals buried within traditional cemetery space.

Future research on the upper Texas coast will hopefully more fully elucidate the various dimensions of regional aboriginal culture evidenced at Mitchell Ridge, by addressing key questions concerning (a) rates and magnitudes of long-term prehistoric population growth in the context of an emerging, high-productivity coastal environment, (b) the evolution of native culture as an adaptive system and definition of its level of internal complexity, and (c) extra-areal cultural relations, particularly with the still poorly investigated area of southwest Louisiana, and, ultimately, the rest of the northwestern part of the Gulf coast, with which important linkages appear to be indicated.