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POLITICAL STRUCTURE AND CHANGE IN THE PREHISTORIC SOUTHEASTERN UNITED STATES

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EIGHT

Chiefly Cycling and Large-Scale Abandonments as Viewed from the Savannah River Basin

David G. Anderson

The Mississippian societies of the Savannah River basin of Georgia and South Carolina provide a dramatic record of chiefly cycling—the emergence, expansion, and fragmentation of complex chiefdoms amid a regional landscape of simple chiefdoms—that can be explored in detail using the extensive and well-documented archaeological record available from this locality. The Savannah River basin was occupied almost continuously throughout prehistory, from the Paleoindian era through the Mississippian period. At the very end of this span, from ca. A.D. 1100, when the first chiefdoms appeared in the basin, to sometime after ca. A.D. 1600, when the last chiefdoms in the headwaters region collapsed under the repeated trauma of European contact, a number of simple and complex chiefdoms emerged and declined in this area. These events were duplicated in many other southeastern river valleys during the Mississippian era and, although typical of cycling behavior, by themselves would not stand as a particularly remarkable illustration of the process (see chapter 10 in this volume). Sometime around A.D. 1450, however, much of the central and lower part of the Savannah River basin, including almost 300 km of the main river channel and all of its major tributaries, was abruptly abandoned and remained depopulated

for almost two centuries. Although by no means a unique event—something very similar seems to have occurred slightly earlier in the Central Mississippi Valley and about this same time in the Middle Tennessee River Valley (Anderson 1991; Welch 1991; S. Williams 1990)—how and why such large-scale abandonments could have taken place warrants explanation, and ties in to the question of how chiefdoms in general emerge and decline.

The Mississippian Chiefdoms of the Savannah River Basin

More than 100 major archaeological survey and excavation projects had been conducted in the Savannah River basin in the past century, offering a database useful for the study of chiefdom organizational changes that is rivaled in only a few other parts of the world. Almost 4,000 prehistoric sites have been recorded in the basin, and Mississippian components are known from more than 500 of them. Extensive excavation-based data exists for all but two of the fourteen known Mississippian mound centers, as well as for a number of village, hamlet, and special activity sites (table 8.1; fig. 8.1); archaeological investigations at each of these sites have been summarized at length elsewhere (Anderson 1990a, 250–464; 1994b, 157–234). Given the lengthy focus of southeastern archaeology toward the location and excavation of mounds, it is probable that most if not all of the major centers present in the basin have been found.

Dating of these assemblages is fairly precise, furthermore, with temporal resolution on the order of plus or minus fifty to seventy-five years possible, thanks to the existence of a number of highly sensitive ceramic temporal markers, including complicated stamped and incised design motifs and a range of rim and lip treatments. As a result, fine-grained Mississippian cultural sequences have been developed in three parts of the Savannah River basin, with absolute chronological controls provided by a large number of local radiocarbon determinations as well as through cross-dating with assemblages from elsewhere in the South Appalachian area (Anderson 1990a, 433–64; Anderson 1994b, 362–77; Hally 1986, 1990; Hally and Rudolph 1986, 21–26) (fig. 8.2).

This is not to say the Mississippian period archaeological record from the Savannah River basin is ideal or complete—far from it.

Table 8.1. Major Mississippian excavation assemblages from the Savannah River Basin (modified from Anderson 1994a, table 4)

Site	Excavation Date	Site Type	Phases of Primary Occupation	Reference
Mason's Plantation		Platform Mounds (n = 6)	Savannah III Hollywood?	C. Jones 1873, 148–57; C. Moore 1898, 167–68
Tate 9Eb86		Platform Mound (n = 1)	Beaverdam?	Hutto 1970, 23–25
Rembert 9Eb1	1883 1948	Platform Mounds (n = 5)	Beaverdam Rembert	C. Thomas 1894, 315–17; Caldwell 1953; Rudolph and Hally 1985, 453–59; Anderson, Amer, and Elliott 1994
Hollywood 9Ri1	1891 1965	Platform Mound (n = 2)	Hollywood	C. Thomas 1894, 317–26; DeBaillou 1965
Haven Home 9Ch15	1897–98	Burial Mound (n = 1)	Savannah I/II	Waring 1968b
Hudson's Ferry 9Sn3	1897–98	Burial Mound (n = 1)	Lawton Hollywood	C. Moore 1898, 169–71
Lawton 38Al11	1897–98	Platform Mound (n = 1)	Lawton	C. Moore 1898, 171–72; Anderson 1990a, 662–68
Irene 9Ch1	1939–41	Platform and Burial Mounds (n = 2)	Savannah I/II Savannah III	C. Moore 1989, 168; Caldwell and McCann 1941

Table 8.1. *Continued*

Tugalo 9St1	1956–57	Platform Mound (n = 1)	Jarrett Rembert Tugalo	C. Thomas 1894, 314–15; Caldwell 1956
Chauga 38Oc47	1958	Platform Mound (n = 1)	Jarret Tugalo Estatoe	Kelly and Neitzel 1959; Kelly and Neitzel 1961
Estatoe 9St3	1959–60	Platform Mound (n = 1)	Tugalo Estatoe	Kelly and DeBaillou 1960
I.C. Few 38Pn2	1967	Burial Mound? (n = 1)	Beaverdam Rembert Estatoe	Grange 1972
Beaverdam Site Group 9Eb92	1980	Hamlet?	Beaverdam Rembert	Campbell and Weed 1984
Beaverdam Site Group 9Eb207	1980	Hamlet?	Beaverdam	Campbell and Weed 1984
Beaverdam Site Group 9Eb208	1980	Hamlet?	Beaverdam	Campbell and Weed 1984
Beaverdam Site Group 9Eb219	1980	Hamlet?	Jarrett Beaverdam	Campbell and Weed 1984
Big Generostee Creek 38An126	1980	Hamlet?	Rembert	Wood et al. 1986

Continued

Table 8.1. *Continued*

Site	Excavation Date	Site Type	Phases of Primary Occupation	Reference
Van Creek 9Eb382	1980	Hunting Camp?	Rembert	Wood et al. 1986
Clyde Gully 9Eb357	1980–81	Village	Jarrett	Tippitt and Marquardt 1984
Simpson's Field 38An8	1980–81	Hamlet?	Beaverdam Rembert	Wood et al. 1986
Rufus Bullard 9Eb76	1980–81	Village?	Beaverdam Rembert	Anderson and Schuldenrein 1985
Beaverdam Creek 9Eb85	1980–81	Platform Mound (n = 1)	Beaverdam	Rudolph and Hally 1985
Rucker's Bottom 9Eb91	1980–82	Village	Beaverdam Rembert	Anderson and Schuldenrein 1985
Tomassee 38Oc186	1986	Village	Estatoe	Smith et al. 1988
Red Lake 9Sn4	1988	Platform Mound (n = 1)	Lawton	Mark Williams, pers. comm.
Chattooga 38Oc18	1989–93	Village	Estatoe	Schroedl and Riggs 1989

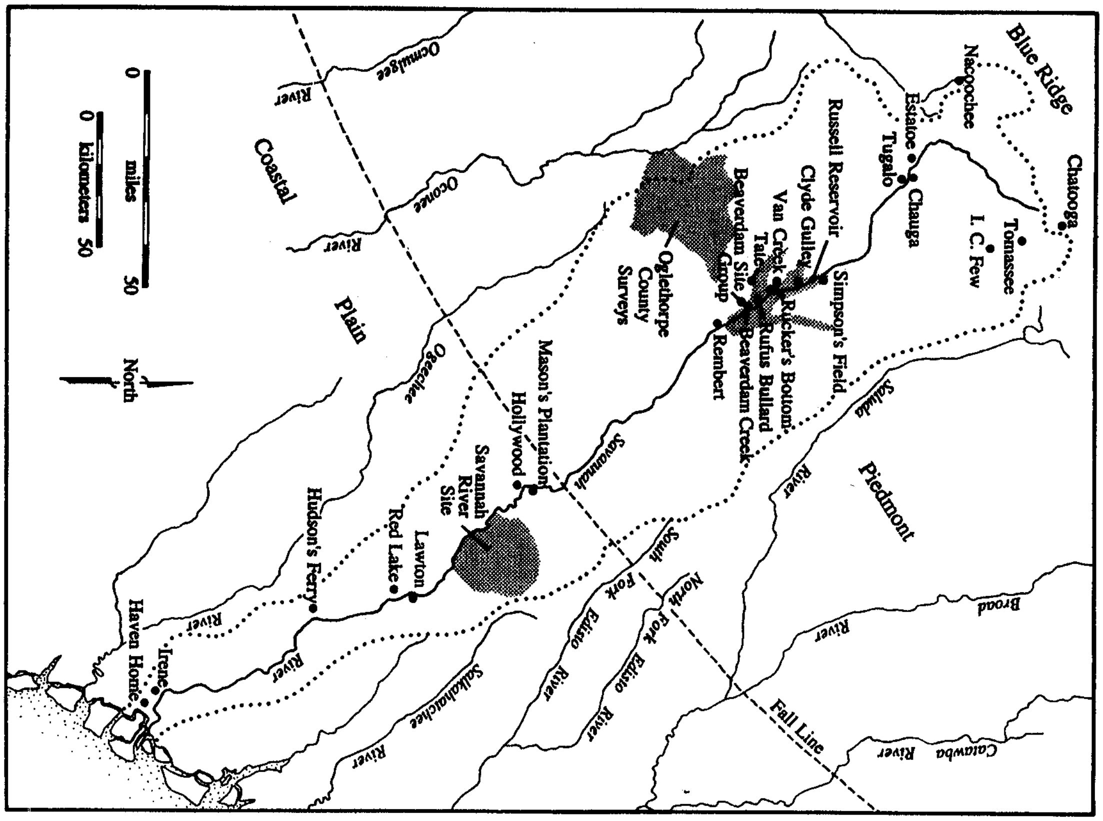

Figure 8.1. Major Mississippian sites and survey areas in the Savannah River Basin

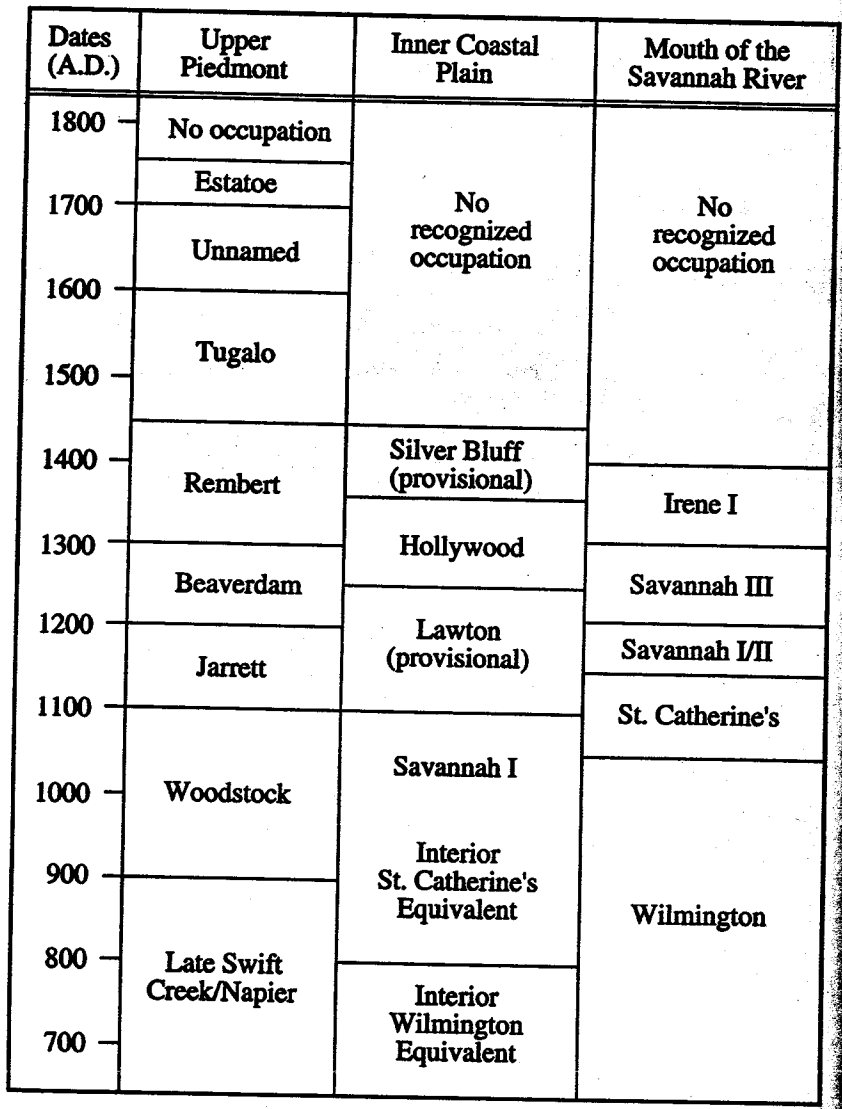

Figure 8.2. Late Prehistoric cultural sequence in the Savannah River Valley (modified from Anderson et al. 1986; Anderson 1994a, 159)

Due to the small size and inconspicuous nature of typical early Mississippian burial mounds, which are little more than gentle rises of earth less than a meter in height, for example, some of these site types unquestionably remain undetected. Likewise survey coverage, though extensive and providing a large sample of sites, still encompasses less than 10 percent of the total area of the basin. Thus, although at the present it is safe to say that a fairly detailed and quite possibly representative sample of Mississippian settlement data has been collected from the Savannah River basin, many surprises likely remain, whose details will be filled in over the years to come.

Evidence for Political Change from the Major Centers

A good overview of the political changes that occurred in the Savannah River basin during the Mississippian era emerges from an examination of the occupational histories of the major mound centers. No ceremonial centers are known to have been present in the basin at the end of the Late Woodland period, from ca. A.D. 900 to 1100. Although the use of low sand burial mounds in egalitarian mortuary behavior is inferred, this type of collective ceremonial behavior has been documented in contemporary sites from adjoining coastal areas (Brooks et al. 1982; Caldwell 1952; Thomas and Larsen 1979), no sites like this are currently known at this time level from the Savannah River basin. The presence of initial Mississippian Woodstock ceramics at Chauga and Rembert suggests the occupation of these centers may have begun at this time, although only at Chauga are these ceramics actually found associated with initial mound construction activity (Anderson, Amer, and Elliott 1994; Caldwell 1953; Kelly and Neitzel 1961, 37).

Well-documented Mississippian occupation in the basin, going well beyond the infrequent presence of Woodstock or early Etowah sherds, dates to after A.D. 1100. Between ca. A.D. 1100 and 1150 four mound centers emerged, two each in the mountainous headwaters and in the Sea Island area near the river mouth (fig. 8.3). These were single-mound sites, thought to represent the political centers of simple chiefdoms. The first true platform mounds appeared at Tugalo and Chauga amid assemblages dominated by Etowah ceramic motifs, although at the latter site the presence of Woodstock ceram-

ics, as noted, indicates occupation and possibly mound construction may have begun somewhat earlier. Mound construction may have also begun at Rembert at this time, although unfortunately our knowledge of this now-submerged center comes from limited terrestrial and underwater testing. Whether the centers in the northern part of the basin were founded by populations from northwestern Georgia, as the ceramic evidence suggests, or reflect less direct interaction by indigenous populations adopting Etowah ceramic technology along with chiefly organizational structures is currently unknown. Two low burial mounds were also constructed at this time at Haven Home and Irene, sites in the southern part of the basin near the river mouth. These mounds were used during the St. Catherine's and Savannah I/II phases, at the transition from Late Woodland to Early Mississippian in the area. Although a continuation of coastal Woodland mortuary practices is indicated, some evidence for the beginnings of social ranking is suggested by the differential presence of grave goods and a change from collective to individual interments. There is no evidence that Mississippian populations were present in the central part of the basin at this time.

Between A.D. 1150 and 1200 Mississippian centers were established throughout the basin, and by or soon after A.D. 1200 as many as nine mound centers were occupied, in a series of distinct clusters located from 50 to 100 km apart in the Lower Piedmont, Inner Coastal Plain, Lower Coastal Plain, and in the Sea Island area (fig. 8.3). These centers were characterized by one or two mounds, with platform mounds present at all but the Hudson's Ferry site in the Lower Coastal Plain, which had two low burial mounds. Four groups of simple chiefdoms are inferred at this time, with the presence of several double mound centers suggesting that more complex chiefdoms may have been forming. Whether all the mounds in a local cluster were occupied simultaneously or, as Williams and Shapiro (1990a) have suggested, sequentially to overcome localized resource depletion remains unknown. Sometime around A.D. 1200, however, the two single-mound centers in the headwaters, at Chauga and Tugalo, were abandoned, something that may reflect a movement of people downstream. The reasons for this abandonment are unknown, although it might have been because the lower reaches of the Savannah River basin were viewed as more attractive for intensive agricul-

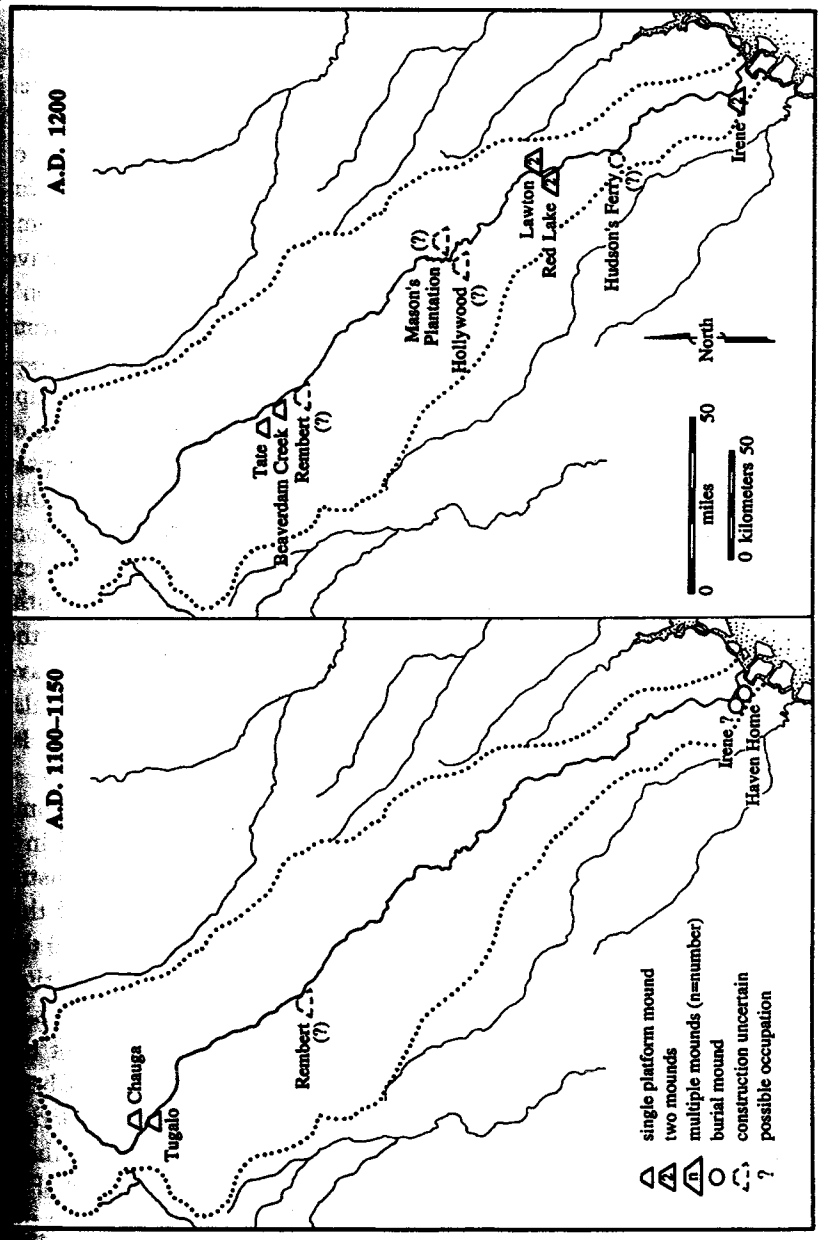

Figure 8.3. Mississippian centers in the Savannah River Valley at ca. A.D. 1100–1150 and 1200

tural food production or because these groups sought to move farther away from potential political rivals in nearby drainages like the Upper Chattahoochee, where the Nachoochee center was occupied at this time (Hally 1993).

The four clusters of small mound centers, presumed groups of closely interacting simple chiefdoms, continued to be occupied for the next half century, although by ca. A.D. 1250 complex chiefdoms characterized by multiple mounds at the dominant center may have begun to emerge, at Rembert in the central Piedmont and at Mason's Plantation in the Inner Coastal Plain (fig. 8.4). Across the river from Mason's Plantation a series of burials with elaborate prestige goods—some engraved and negative painted vessels coming from perhaps as far away as the central Mississippi Valley—were placed in one of the two mounds at the Hollywood site. The elites at this site appear to represent the dominant lineage(s) in this part of the valley at this time, although if power had already passed to Mason's Plantation the site may have been used as an ancestral mortuary complex. Elaborate prestige goods and iconography characteristic of the Southeastern Ceremonial Complex were also found at the Irene site at the mouth of the river, and this double mound center appears to have been the focus of a presumably simple chiefdom dominating populations in the lower basin and the immediately surrounding Sea Island area.

Sometime between ca. A.D. 1250 and 1350 complex chiefdoms emerged in the Savannah River basin, a process that resulted in a sweeping reorganization of the political landscape and in the distribution and size of the valley's mound centers. By the end of this interval, almost all of the small mound centers that had dotted the landscape during the preceding two centuries were gone, and political power was now centered in two major multimound complexes at Rembert and Mason's Plantation (fig. 8.4). The emergence of these two presumed complex chiefdoms clearly appears to have been at the expense of the smaller centers, suggesting that a consolidation of power occurred. Although at the beginning of the period there were four groups of simple chiefdoms in the basin, at the end of it two major, and presumably discrete, political entities occupied the central portion of the basin, with centers roughly 100 km apart on opposite sides of the fall line. The populations in the upper and

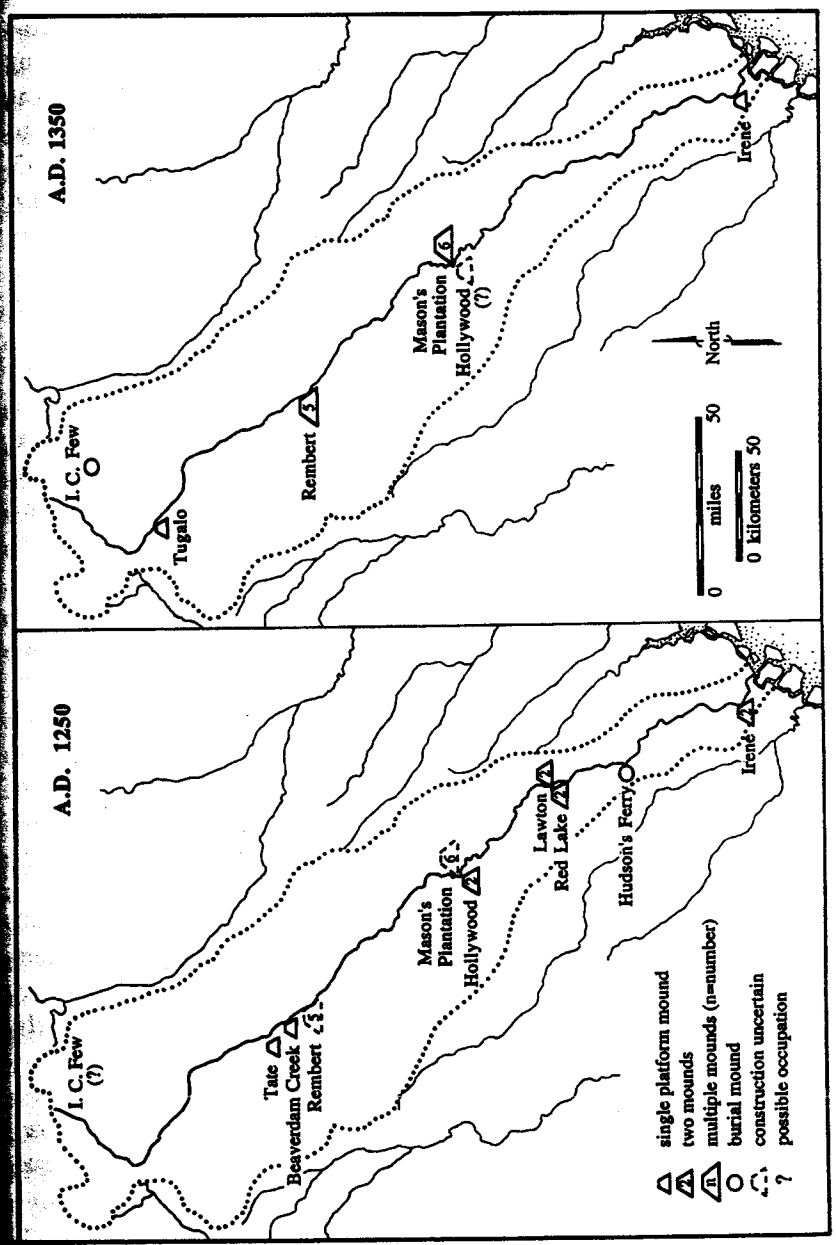

Figure 8.4. Mississippian centers in the Savannah River Valley at ca. A.D. 1250 and 1350

lower parts of the basin reacted or were effected differently by these events. The platform mound at Irene was abandoned, suggesting chiefdom organization collapsed in this part of the basin, whereas in the headwaters a new, presumably simple chiefdom appears to have emerged, centered on the single-mound Tugalo site. The I. C. Few burial mound in the extreme upper reaches of the basin also appears to have been in use at this time. It is possible that rivalry between the two complex chiefdoms in the central part of the basin may have permitted a chiefly society in the headwaters, lying on the periphery, to have some degree of autonomy.

The presence of two complex chiefdoms in relatively close proximity appears to have been an unstable situation, because by ca. A.D. 1400 or shortly thereafter only one multimound center remained occupied, at Rembert (fig. 8.5). The elites at this center likely exerted at least some influence on populations throughout the basin during the comparatively brief period of their ascendancy, although there is little evidence for the direct control of peoples at much distance from the site. Exactly when the abandonment of their possible rival center at Mason's Plantation occurred is unknown, although post-Hollywood phase components are rare in this part of the drainage, suggesting this site was well into decline by or shortly after A.D. 1350. Intrusive Irene urn burials were placed in the upper part of the Hollywood mounds, although the site appears to have been otherwise unoccupied. Use of the Tugalo and I. C. Few mounds continued in the upper part of the drainage, however, suggesting that the emergence of the Rembert site as the dominant political power in the drainage did not appreciably reduce the autonomy of more distant populations. That Rembert apparently failed to dominate centers elsewhere in the basin when it should have been at the height of its power may have been due, in part, to the competition it was likely facing from chiefdoms located outside the Savannah River basin.

That the extent of Rembert's direct control in the basin was limited is also indicated by events occurring at the mouth of the drainage. Sometime between ca. A.D. 1350 and 1400 the Irene site reappeared as a political center, something that may also be linked to the apparent collapse of Mason's Plantation about this same time. The former platform mound was covered over and its function changed to

burial mound, and a council house, mortuary, and a series of stockade lines or screening walls were built and then apparently enlarged one or more times. The replacement of a platform-mound complex by a council house suggests a more egalitarian form of political organization had appeared, perhaps in reaction to the collapse of local chiefly political authority that had occurred previously, as well as the greater autonomy the area may have enjoyed following the abandonment of Mason's Plantation. Around A.D. 1400, then, three locuses of political power remained in the basin, at Irene, Rembert, and Tugalo, of which the centers in the upper part of the basin, at Rembert and Tugalo, likely retained a traditional hierarchical chiefdom organization, whereas at Irene a more loosely organized and egalitarian form of organization appears to have developed. The nature of relationships between these centers is unknown, although there is some evidence for increased warfare at this time, notably in the expansion of fortifications at Irene, their appearance and subsequent expansion at Rucker's Bottom, a small village in the central Piedmont, and the occurrence of occasional multiple burials, or burials with weapons trauma, at Irene and other sites.

Around A.D. 1450 or shortly thereafter, the most dramatic development in the Mississippian political history of the basin occurred, the depopulation of an almost 300-km stretch of the valley, from the Upper Piedmont to the river mouth. The Rembert and Irene centers were abandoned, and the lower basin apparently remained unoccupied and only minimally visited for almost two centuries, until a number of historic Indian groups moved or were relocated into the area in the late seventeenth century, when the basin served as a western buffer for the English colony centered at Charlestown Landing (fig. 8.5). Occupation continued in the mountainous headwaters area, however, and population appears to have increased appreciably, perhaps reflecting a relocation of peoples from the central and lower portions of the basin. The Tugalo center continued to be occupied, Chauga was reoccupied for the first time in two centuries, and a new center emerged at Estatoe. Although mound construction appears to have stopped sometime around A.D. 1600, all three sites were occupied into the eighteenth century, when they were prominent Lower Cherokee towns.

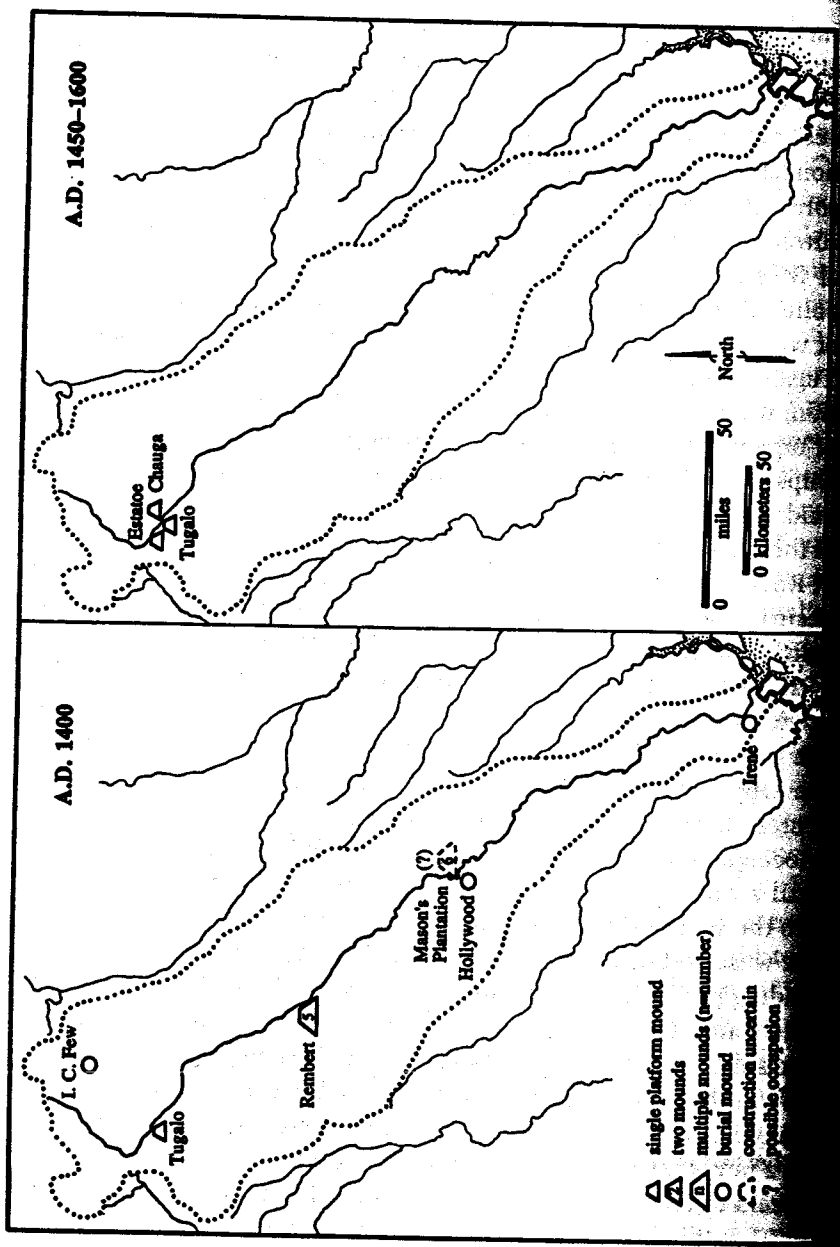

Figure 8.5. Mississippian centers in the Savannah River Valley at ca. A.
1400 and 1450–1600

Evidence for Political Change from Site Distributional Data

The broad political trends indicated by an examination of occupational histories at the major centers is supported by general survey data. More than 100 survey projects have been conducted to date in the basin; approximately 2.6 percent of the approximately 27,450-km² area has been intensively surveyed, and another 5 percent has seen less intensive coverage. A total of 551 sites with Mississippian components have been recorded (table 8.2); primary data about the areas examined and intensity of survey coverage, physiographic province within the drainage, total number of sites found and the number of Mississippian components on these sites by subperiod or phase, and collection locations and bibliographic references have been detailed elsewhere (Anderson 1990a; 1994b, 165–70). In all, 304 Early, Middle, and Late Mississippian components have been identified on these sites using temporally sensitive ceramic sorting criteria; another 323 Mississippian components could not be placed within a specific subperiod due to small sherd sample sizes, or else where only nondiagnostic Mississippian artifacts, such as small triangular points, were present.

A total of 125 Early Mississippian components, which date from roughly A.D. 1000 to 1250, have been identified within the basin. These components belong to the Savannah I/II, Savannah I, Woodstock, Jarrett, and Beaverdam phases, proceeding from the mouth to the headwaters, respectively (compare fig. 8.2, table 8.2; subperiod rather than phase assignments are used to facilitate the comparison of components in different parts of the drainage). Initial Mississippian Woodstock complicated stamped ceramics are extremely rare, occurring on fewer than a dozen sites, and only at Chauga have more than a few sherds been found. The first Mississippian ceramics observed in appreciable numbers are characterized by Etowah one- and two-bar nested diamond motifs, indicating some kind of interaction with groups in northwestern Georgia. The largest numbers of identified Early Mississippian components come from the central part of the basin, in the Inner Coastal Plain/fall line and Lower Piedmont subareas, and date to the Jarrett and Beaverdam phases. The existence of hamlets, small villages, and single-mound centers has been documented at this time level in the Lower Piedmont

(Campbell and Weed 1984; Rudolph and Hally 1985; Tippitt and Marquardt 1984). Interestingly, although the first platform-mound centers were apparently occupied in the upper part of the drainage, at Chauga and Tugalo (although Rembert may have been occupied quite early as well), only three Early Mississippian components were identified in the survey collections from the upper reaches of the basin, in the Upper Piedmont/Blue Ridge area. The first Mississippian settlements in this part of the basin, assuming sampling bias is not operating, may have been largely restricted to primary centers.

A total of 121 Middle Mississippian components, which date from ca. A.D. 1250 to 1450, have been identified in the basin, encompassing the Irene I, Hollywood, Silver Bluff, and Rembert phases. Although occurring with greatest incidence (N = 51) in the Lower Piedmont in the vicinity of the Rembert site, which is inferred to have been the center of a complex chiefdom during this period, Middle Mississippian components were common everywhere in the basin with the exception of the headwaters area. The low incidence of components in the headwaters area is not altogether unexpected, as only one center, Tugalo, was occupied at this time in this part of the basin. At least some of the sites in the Lower Piedmont in the general vicinity of Rembert have been extensively excavated and shown to be small villages or hamlets (Anderson and Schuldenrein 1985; Campbell and Weed 1984). In the Inner or Lower Coastal Plain a pronounced drop in the number of identified components occurred from the Early to the Middle Mississippian subperiods, suggesting local population levels were declining or else settlement was becoming more nucleated; unfortunately, no nonmound sites from this time level have been excavated to help resolve this question. As a result, very little is known about the nature of Middle Mississippian settlement around Mason's Plantation, the other multimound center occupied in the basin at this time level. The abandonment of the Lawton and Red Lake centers also occurred at this time and is unquestionably part of a process that culminated in the abandonment of the lower part of the drainage. Only at the river mouth did an increase in the number of Middle Mississippian components occur, although during this period the Irene center was revitalized following a period of abandonment.

The distribution of Late Mississippian components (N = 58), dating

Table 8.2. Mississippian components in the Savannah River Valley by period and major physiographic zone (modified from Anderson 1994a:Table 5)

Locality from South to North	Area examined (ha)	No. of prehistoric sites	Total no. of sites	Total no. of Mississippian sites	Mississippian components			
					Unknown	Early	Middle	Late
Mouth of the Drainage	1,419.4	219	313	29	2	14	17	0
	0.69%	5.59%	6.10%	5.26%	0.62%	11.20%	14.05%	0.00%
Lower Coastal Plain	12,876.3	412	462	79	37	33	14	4
	6.26%	10.52%	9.01%	14.34%	11.46%	24.40%	11.57%	6.90%
Inner Coastal Plain–Fall Line	54,206.4	1,118	1,278	145	114	39	34	8
	26.33%	28.54%	24.92%	26.32%	35.29%	31.20%	28.10%	13.79%
Lower Piedmont	89,737.5	1,860	2,703	265	160	36	51	23
	43.60%	47.49%	52.70%	48.09%	49.54%	28.80%	42.15%	39.66%
Upper Piedmont–Blue Ridge	47,600.7	308	373	33	10	3	5	23
	23.13%	7.98%	7.27%	5.99%	3.10%	2.40%	4.13%	39.66%
Totals	205,840	3,917	5,129	551	323	125	121	58
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

from ca. A.D. 1450 to 1750 and encompassing Irene II, Yamassee, Tugalo, and Estatoe phase assemblages, strongly support the inference that the lower reaches of the basin were depopulated during this era. Few Late Mississippian components occur below the Lower Piedmont, and most of these were assemblages characterized by one or a few artifacts that may represent the remains of isolated hamlets, short-term camps, or special activity areas. Although the frequency and proportional occurrence of Late Mississippian components increases from the river mouth to the headwaters, only in the Upper Piedmont/Blue Ridge physiographic zone are they more common than Early or Middle Mississippian components. No Late Mississippian components are known from the lower part of the basin near the river mouth, indicating the abandonment of the Irene site was only part of a process affecting a much larger area, something also indicated by the comparatively few components found in the Inner and Lower Coastal Plain. Although more Late Mississippian components are found in the Lower Piedmont, most of them (N = 18, 78.3 percent) come from the extreme western part of the basin near the Oconee River, which was densely settled at this time (Freer 1989; Jefferies and Hally 1975). In the headwaters area, in contrast, Late Mississippian components are more widespread; many are historic Cherokee in age, and appear to come from hamlet or town sites (for example, Schroedl and Riggs 1989; Smith et al. 1988).

Evidence for Political Change from Specific Project Areas

These patterns of Mississippian settlement and political change in the Savannah River basin receive additional support through analyses of assemblages from intensively surveyed localities, including the Savannah River site in the Inner Coastal Plain, and the Richard B. Russell Reservoir and the Oglethorpe County Clearcut Project tracts in the central Piedmont (Anderson and Joseph 1988; Freer 1989; Sassaman et al. 1990).

Approximately 40 percent of the 777-km^2 Department of Energy's Savannah River site has been intensively surveyed, and 755 prehistoric sites have been recorded. Of these, 164 have yielded identifiable Late Woodland components, and Mississippian components have been found at 91 sites (Sassaman et al. 1990, 276). Late Woodland sites are widespread, and a dispersed settlement strategy has been

inferred, with minimal political integration (Brooks and Hanson 1987; Sassaman et al. 1990, 315–17). A marked reduction in the number of sites occurs in the ensuing Mississippian period, and their distribution is restricted to primarily along the larger tributaries. Possible habitation sites, characterized by the presence of ceramics, tend to occur on major stream terraces, probably to take advantage of the natural soil fertility and appreciable wild food resources in these areas (Larson 1972; B. Smith 1978). Sites characterized by small triangular projectile points only, which comprised almost a third of the sample and may represent the remains of hunting camps, tended to occur much more widely over the landscape. From a high of twenty-eight during the Early Mississippian, the number of components declined to nineteen during the subsequent Middle Mississippian subperiod, and to zero in the Late Mississippian, supporting the inference that this part of the basin was indeed abandoned, and further suggesting that this process may have occurred gradually, over the course of the Middle Mississippian, rather than abruptly at the end of this subperiod.

A similar pattern of population decline was documented in the Richard B. Russell Reservoir area, although in this central Piedmont locality it occurred after the Middle Mississippian subperiod. More than 5,000 ha in the reservoir area was extensively surveyed in the 1970s, with more than 600 prehistoric archaeological sites found and large-scale excavations conducted in more than a dozen locations (Anderson and Joseph 1988). Few Late Woodland sites were identified, and recognition of sites of this period remains a problem to this day in the Georgia and South Carolina Piedmont. Mississippian assemblages were widespread, however, with materials of this period identified on 125 sites. Numbers of components increased from the Early (N = 34) to the Middle Mississippian (N = 46) subperiods, after which a marked decrease took place in the Late Mississippian (N = 5). The settlement data thus indicates that the consolidation of local Early Mississippian single-mound centers into one multimound center at Rembert during the Middle Mississippian subperiod did not result in a decline in the number of sites and possibly people in the area. Just the reverse, in fact, appears indicated, suggesting the formation of a complex chiefdom locally may have facilitated population growth. Given this, the marked decline in components from

the Middle to Late Mississippian subperiod indicates the collapse of the Rembert chiefdom was not felt just at the center but was part of a larger pattern of abandonment and depopulation throughout this part of the valley.

An intensive survey of a series of clearcut tracts in the western portion of the Savannah River basin just to the south of the Russell Reservoir area provide additional clues about the causes of political change during the Mississippian period in the Lower Piedmont. A total of 313 prehistoric sites were found in 8 tracts encompassing 1,198 ha in Oglethorpe County, Georgia, and extending from the Oconee River to a major tributary of the Savannah (Freer 1989). Mississippian components were identified at 71 sites. Early and Middle Mississippian components were rare, occurring on only 4 and 5 sites, respectively, indicating comparatively minimal use of this area during these subperiods. The situation changed dramatically in the Late Mississippian subperiod, when 56 components were present. Most of these (N = 40) were located in the Oconee River basin, where a dramatic increase in the number of sites has been documented at this time (Rudolph and Blanton 1981; Kowalewski and Hatch 1991). Sites with Mississippian projectile points only were much more common in the tracts in the Savannah than in the Oconee Basin, suggesting use of the former area may have been primarily for hunting or warfare. Population expansion by the Oconee chiefdoms is indicated by the presence of a number of probable Late Mississippian habitation sites in the extreme western part of the Savannah Basin, movement that was probably facilitated by the collapse of the Rembert chiefdom. Minimally, the distributions indicate that watershed divides were not necessarily strict boundaries during the Mississippian era.

Causes of Chiefly Cycling in the Savannah River Basin

If the survey and excavation data compiled to date holds up, it would appear that chiefdom organizational structures collapsed in the Central and Lower Savannah River basin between ca. A.D. 1300 and 1450, a process that resulted in a near-total depopulation and abandonment of the area. There is some evidence to suggest that this process did not occur overnight, furthermore, but took place gradually, over a

period of one to two centuries Thus, the chiefdoms centered at Irene, Lawton, and Red Lake in the lower part of the basin appear to have collapsed sometime around A.D. 1300–1350, whereas those centered at Hollywood and Mason's Plantation sites appear to have survived somewhat later, to around A.D. 1350–1400. The inferred complex chiefdom centered at Rembert in the central Piedmont, in contrast, did not collapse until around A.D. 1450. Although Irene itself was revitalized around A.D. 1350 to 1400, this was a short-lived triumph, because the site and indeed the entire area around the mouth of the drainage appears to have been abandoned by ca. A.D. 1450; by this time, in fact, most of the central and lower basin was depopulated. Only in the extreme upper part of the basin, which itself had witnessed periods of occupation and abandonment during earlier times, is there evidence for population increase after ca. A.D. 1450, and the area continued to be occupied well into the historic period. Reasons for the emergence and collapse of simple and complex chiefdoms in the basin, and for the large-scale abandonment that took place in the fifteenth century, appear to be tied to a range of environmental and historical factors, which are reviewed in the remainder of this chapter.

Environment and Resource Structure

During the same period that the Lower Savannah was depopulated, large Mississippian populations are known to have been present in the major drainages to either side, in the Oconee and Santee-Wateree Basins. The Savannah is much smaller in areal extent than these basins, however, and also much narrower in its upper reaches (fig. 8.6). If group territories were demarcated by watershed divides, an inference that may hold during periods of intense competition, the Mississippian populations in smaller basins would have had fewer natural resources to draw upon and, probably as a direct result, lower population levels. In political competition at the regional scale, therefore, the Savannah River chiefdoms may have been at something of a disadvantage simply by virtue of their location. Resident populations could thus have been forced to relocate to other areas by their more powerful chiefly neighbors.

Resource structure may have helped shape the course of events within the basin proper. The early abandonment of the lower part

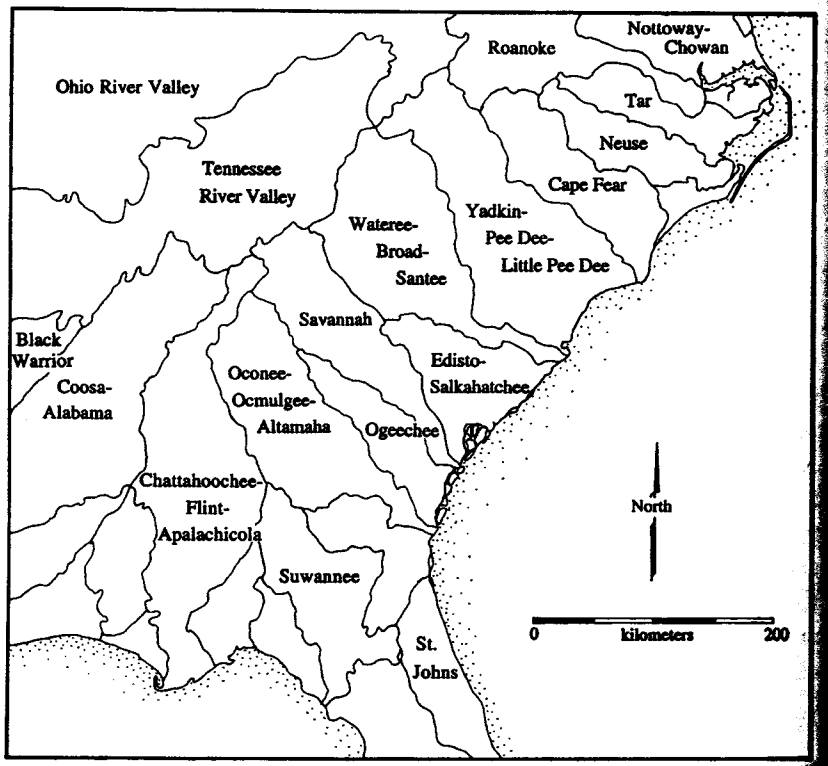

Figure 8.6. The Savannah River Basin and the size of surrounding drainages

of the Savannah River basin may have been, in part, because the area was poorly suited for societies dependent upon agricultural surpluses as well as on wild plant and game resources. Below the fall line the Savannah Basin is very narrow, with extensive swamps along the river, few large tributary streams leading into the interior, and few well-defined terraces, whereas the interior away from major channels was characterized by extensive pine forests and xeric sandy soils; food resources of interest to prehistoric populations in this province are spatially restricted and low or infrequent in occurrence over large areas (fig. 8.6). In the upper part of the drainage, in contrast, relief is more pronounced and terraces are better defined, presumably offering better opportunities for Mississippian agriculture. The Pied-

mont vegetation consists of a mixed mesophytic oak-hickory forest and, as a result, nut mast and game occurred throughout this physiographic province (Barry 1980; Brooks, Sassaman, and Hanson 1990, 44–52; Larson 1980, 51–56; Ward 1983, 68–69). Chiefdoms in the lower part of the basin may thus have been more vulnerable to stress, which might help explain why they were abandoned before societies farther upriver.

The Importance of Buffer Zones

The formation and maintenance of buffer zones, which served as hunting territories and hence sources of wild food resources, was a critical aspect of Mississippian life. If access to resources capable of buffering agricultural shortfalls was restricted, for example, appreciable subsistence stress could have occurred. As a result, buffers were actively defended, and these zones performed both political and subsistence functions by separating and supporting populations on the landscape. The distributions of diagnostic Mississippian projectile points and ceramics can be used to explore where buffers were located and how they operated, that is, to map where and with what intensity hunting and habitation may have occurred. In the Oglethorpe County clearcut survey data set, for example, a decrease in the incidence of sites with ceramics, presumed habitation areas, was observed with increasing distance from the Oconee River, whereas the numbers of sites at which only small triangular projectile points were present increased (Anderson 1994b, 264–65; Freer 1989).

The recognition of actively maintained buffer zones, in effect, entails determining where habitation sites are located, and comparing this with the area over which projectile points or other artifacts derived from the residents of these sites were used in resource procurement activities. These distributions may also provide clues about the nature of relationships between Mississippian societies. Where projectile points are rare or absent in areas midway between differing polities, for example, this may be because individuals from these societies consciously avoided one another or because the distance separating these polities was great enough to provide sufficient resources for each and reduce the likelihood of contact and conflict. Where projectile points are common in intermediate areas, in contrast, this may reflect intense competition and warfare between these

societies. Such inferences, of course, require evaluation with multiple and ideally independent kinds of evidence.

In a test of these ideas, the distribution of small triangular projectile points was examined by county throughout South Carolina, using data from amateur collections (Charles 1981, 1983, 1986; 4,469 of 85,102 points were Mississippian triangulars in the sample). West-to-east transects across the state were developed illustrating the occurrence of Mississippian triangulars and using two standardized measures, first as a percent of the total number of projectile points of all periods found in each county, and second as a percent of the total number of Mississippian triangular points in the statewide sample. Transects spanning the central Piedmont and the Inner Coastal Plain, from the Savannah River to the Santee-Wateree drainage and beyond are illustrated in figure 8.7. The need for large samples and data encompassing the entire state dictated the nature of the collections employed; the numbers of projectile points collected and recorded by professional archaeologists in many parts of South Carolina is very low when compared to the numbers gathered by amateurs. While the distribution of projectile points should ideally be compared with that for ceramics, sherds are unfortunately only rarely collected by amateurs and almost never in a systematic fashion. Few sites with ceramics have been recorded in the interriverine parts of the state by either amateurs or professionals, however, which is exactly the pattern that would be expected if these areas were being used as hunting territories.

Large numbers of Mississippian triangular projectile points were observed in the interriverine area in the central Piedmont, along the Upper Saluda and Broad Rivers in the vicinity of Laurens County (fig. 8.7, top). A much lower incidence of points occurred in the counties to either side, which lie along the Savannah and Upper Santee/Wateree/Catawba Rivers. This suggests that the interriverine area may well have been used as a hunting territory by the Mississippian populations occupying the major drainages to either side; the large numbers of points in this area, furthermore, suggests their may have been appreciable rivalry and conflict between these societies. This is certainly indicated during the colonial period, when the western South Carolina Piedmont was an unoccupied buffer zone separating the Cherokee on the Upper Savannah from the Catawba

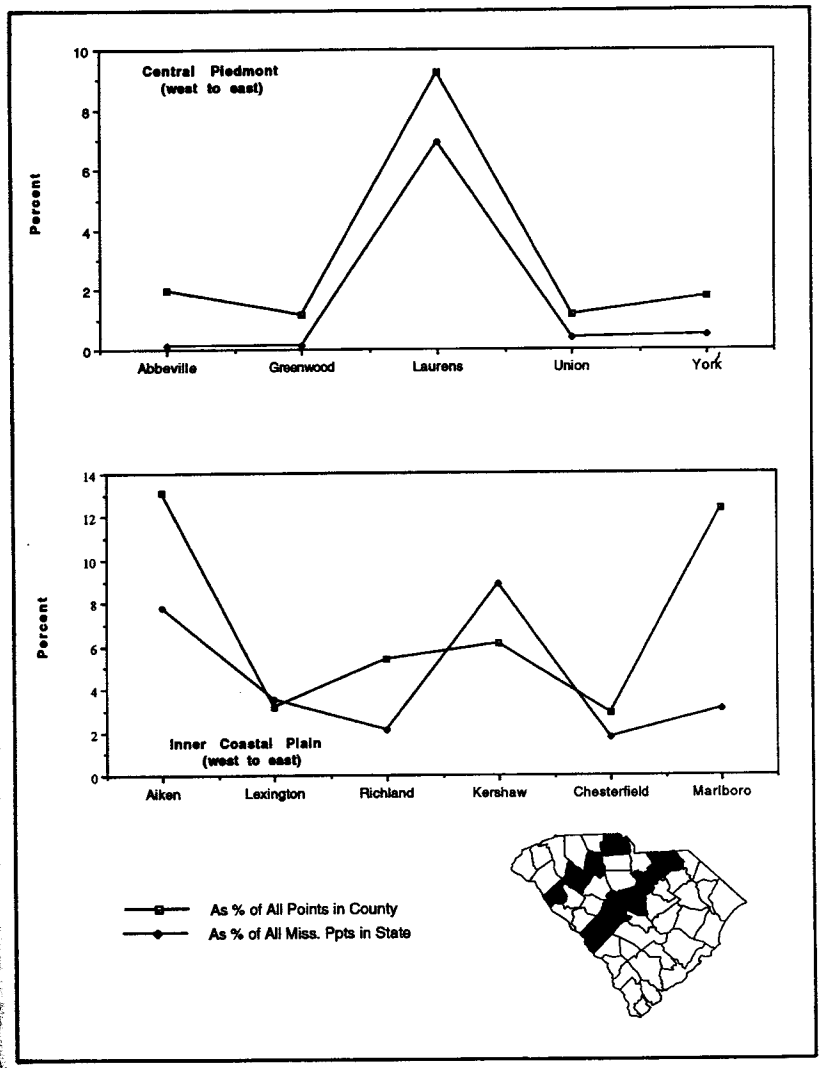

Figure 8.7. Incidence of Mississippian triangular projectile points across the central South Carolina Piedmont (top) and Inner Coastal Plain (bottom) (modified from Anderson 1994a, 268–69)

along the Upper Broad and Catawba Rivers (Milling 1940, 231–32). In the Inner Coastal Plain, in contrast, Mississippian projectile points typically occur in large numbers in counties where major river systems are present, such as the Savannah, the Wateree, and the Pee Dee (Aiken, Kershaw, and Marlboro counties, respectively; fig. 8.7, bottom). These artifacts are much less common in the interriverine areas, suggesting hunting occurred primarily in the riverine zone closer to the centers. The differing distributions appear to be closely tied to resource occurrence in the two physiographic provinces; in the Piedmont mast-producing hardwoods and wild game resources are widely distributed, making the interriverine area an attractive area for hunting, whereas in the Coastal Plain both mast and game tend to be more concentrated (along the riverine terraces). Until larger and more representative artifact samples can be obtained, the inferences presented here should be viewed as tentative and the method itself merely illustrative of how regional political relationships can be explored using archaeological data. It should be clear, however, that buffer zones were not merely depopulated areas lying between polities where nothing happened but were deliberately maintained social landscapes.

Paleoclimate and Its Impact on Crop Yields

The political stability of the Savannah River chiefdoms appears to have been closely linked to interannual and longer-term variation in spring rainfall, specifically as it shaped crop yields and potential food reserves (Anderson, Stahle, and Cleaveland 1995). The production of agricultural surpluses is assumed to have been critical to the long-term maintenance of elite authority structures in most or all southeastern Mississippian societies, making determining the relationships between climate, agricultural food production, storage technology, and political organization an important topic for research. Over the past fifteen years dendrochronologically based reconstructions of past climate have been developed in a number of parts of the Southeast using bald cypress annual growth-ring data, research directed by David Stahle and Malcolm Cleaveland at the Tree Ring Laboratory, Department of Geography, University of Arkansas (Stahle, Cleaveland, and Cereveny 1991; Stahle, Cleaveland, and Hehr 1985a, 1985b, 1988; Stahle et al. 1985; Stahle and Cleaveland 1992, 1994). Using historic weather records, a strong correlation between ring width and temperature and rainfall during the spring growing season has been documented in bald cypress, with precipitation accounting for much of the variance in growth width in the chronologies developed to date.

Potential agricultural food reserves for chiefdoms in the Savannah River basin were calculated using dendrochronologically derived growing-season rainfall estimates for the South Carolina area. These were based on two 1,000-year bald cypress chronologies developed in the Lower Coastal Plain, one some 75 km east of the Savannah in Four Hole Swamp and the other from a few km to the west of the main channel, along Ebenezer Creek (fig. 8.8). The tree-ring chronologies were calibrated with average South Carolina March-to-June rainfall during the historic era using a multiple regression model ($R^2 = .58$; Stahle and Cleaveland 1992, 1994). The annual spring rainfall values were assumed to directly correspond to potential crop yields for the years in question. Years with above average rainfall were assumed to represent periods of food production above the needs of the population, or surplus; years where rainfall was below average were assumed to represent periods of production shortfall, or food shortage. Critical to this analysis, of course, is the assumption that periods with above and below average rainfall actually reflected periods with increased or decreased crop yields. Because statewide data were used to develop the precipitation reconstruction, it must be emphasized that the trends observed here likely affected Mississippian societies all across South Carolina and adjoining portions of nearby states, although the analysis here addresses their impacts on the Savannah River chiefdoms.

Storage capacity was assumed to be two normal harvests, or one year's reserves above normal annual consumption. Food storage for longer intervals was considered improbable given the Southeast's moist climate and, given this, storage of greater quantities, even if they could be produced, would mean reserves would spoil before the society could consume them. Historic accounts detailing quantities of stored food are infrequent, although references from the later historic era, after the collapse of most chiefdom organization in the region, usually imply reserves rarely lasted as long as a year (Swanton 1946, 256–65). There is some suggestion from the accounts of the

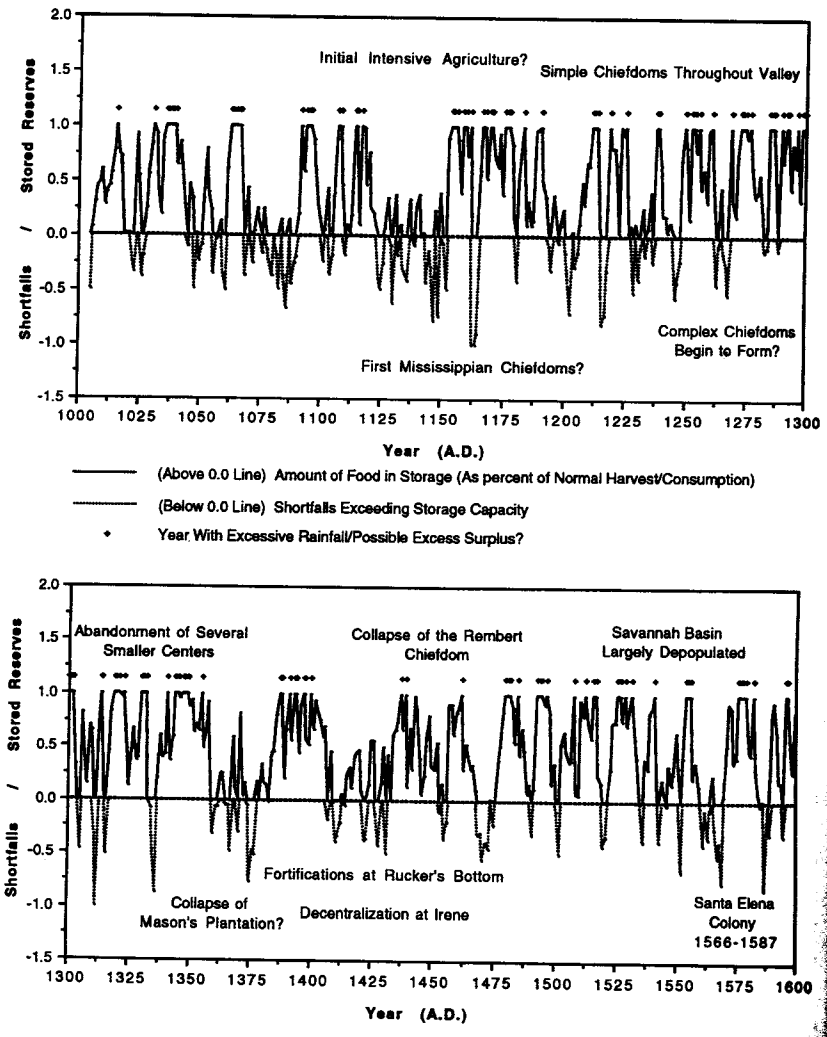

Figure 8.8. Potential food reserves in storage and years of shortfall or excess surplus: A.D. 1000 to 1600 (modified from Anderson 1994a, 282; Anderson, Stahle, and Cleaveland 1995)

De Soto expedition, however, that the region's complex chiefdoms maintained appreciably greater reserves (DePratter 1983, 165).

Potential agricultural food reserves and shortfalls are presented in terms of deviations from estimated average annual consumption in figure 8.8. Positive values, which range up to +1, reflect surpluses above average annual consumption, whereas negative values, which range to −1, represent shortfalls that must be made up from other sources. *The value for a given year represents the sum of the crops remaining in storage from the preceding year together with the yield from the current harvest, minus normal consumption.* Wild plant and animal resources are not taken into account in this analysis, although they could have been used to make up agricultural shortfalls. During the Mississippian period there are several extended intervals when stored food reserves are calculated to have been either plentiful or scarce. These reflect periods of unusual drought or extended below-average spring rainfall, when harvests would have been below normal levels, or extended periods of above-average rainfall, when crop surpluses would have been common. A number of these intervals appear to be correspond to periods when significant changes occurred in the Mississippian societies in the Savannah River basin and immediately adjoining areas (see also Anderson 1994b, 280–89; Anderson et al. 1995).

Food shortfalls happened twelve of the nineteen years from A.D. 1359 and 1377 and twenty-one of the seventy years between A.D. 1407 and 1476, for example, including seven of the eight final years of the latter interval. The collapse of a number of small chiefdoms and the appearance of fortifications is thought to have occurred sometime around the first period, and the depopulation of much of the central and lower valley took place during the second interval. Although variation in growing-season rainfall may have helped shape events like these, it was not paramount. An extended period of favorable conditions, when food reserves could have been present almost every year, for example, occurred over the first half of the sixteenth century, yet no populations returned to the Lower Savannah River basin.

The analysis clearly indicated the value of maintaining stored food reserves. Storing two normal harvests (one year's reserves) would have enabled local populations to overcome both isolated crop fail-

ures and a number of consecutive years of slightly below average harvests. This was sufficient to avoid food shortfalls in 449 (75.5 percent) of the years from A.D. 1000 to 1600. The analysis also indicated that potential famines could occur not only during periods of severe drought, when production shortfalls quickly exhausted stored food reserves, but could also come about more gradually, through a series of slightly below average production shortfalls that over time exhausted reserves. An extended series of slightly below average harvests, given inadequate or insufficient long-term storage, could thus be as devastating as shorter but more severe droughts. Maintaining stored reserves would, however, give populations time to switch over to other food sources.

Evidence for Organizational Change at Particular Sites

At a number of sites in the Savannah River basin extensive archaeological research has taken place, providing specific information about possible correlates for the formation, operation, and collapse of Mississippian chiefdoms. At the Irene site at the mouth of the river, where a platform and burial mound were present, the platform mound underwent seven successive stages of rebuilding during the Savannah I/II and III phases, indicating a fairly stable polity was probably present for several generations (Caldwell and McCann 1941). The first two stages were earth-embanked structures, which were followed by five platform-mound stages. Buildings were placed atop each stage, and fence lines were found around the entire central part of the site as well as around the base of Stage 3 and the summits of Stages 5, 6, and 7. The appearance and continuation of palisades, if these features were defensive in nature rather than screening walls to separate elite from commoner populations, may point to increasing hostilities over time or, alternatively, the increased social and physical isolation of the elite. Elaborate hearth and gutter arrangements found atop Stages 5 and 6 suggest ceremonial life was growing increasingly complex.

Chiefdom organization collapsed at the site around A.D. 1300, during the transition from the Savannah III to the Irene I phase. The platform mound was abandoned for an unknown period, long enough for appreciable erosion to occur, after which it was covered by a

large circular mound with a rounded summit with no associated structures. Considerable effort went into separating this new mound from its predecessors, including the placement of layers of shell over the last platform and the deliberate removal of its ramps. A change in function is clearly indicated, probably from a temple to a burial mound, suggesting a return to the kind of egalitarian burial practices present in this area during the Late Woodland. A probable council house was erected to the south of the primary mound about this same time, and this building was enlarged and expanded at least once, offering additional support to the idea that a change in sociopolitical organization occurred, from a stratified to a more egalitarian structure. Council houses were observed in a number of early contact era coastal Mississippian groups along the South Atlantic Slope, suggesting groups in this area may have had weak or fragile hierarchical organizational structures (Crook 1978, 39–40; DePratter 1983, 207–10; Waddell 1980, 45–46). A mortuary building with two surrounding circular enclosures, within which burials were placed, was also constructed during the Irene occupation. Structures of any kind were rare on the site, and there is little evidence to suggest the center was used by large numbers of people on other than a temporary basis, or had more than a small resident caretaker population.

The presence of headless burials, multiple burials, isolated skulls, and individuals with wounds all argue for an increase in warfare during the Irene occupation. Fortifications were present around the council house, and these expanded over time, further evidence for increasing hostilities. Finally, of six domestic structures, the two latest ones had burned, as had the mortuary. The two burned domestic structures dated to the transitional Savannah/Irene and Irene I occupations, perhaps reflecting incidents associated with the abandonment of the platform mound and then the site itself, respectively. There is some evidence from the mortuary to suggest that the site's Irene I occupants were growing impoverished in the years leading up to the abandonment of the center. Grave goods occurred with almost half the burials in the inner and presumably earlier enclosure, yet were present with less than one-quarter of the burials in the outer and presumably later enclosure. If the construction sequence is correct (assuming the spatial separation within the mortuary com-

plex does not reflect status differences among the individuals interred there), either increasing impoverishment, or egalitarianism, is suggested.

Evidence for elite impoverishment prior to abandonment was also found at the Hollywood mound center in the Inner Coastal Plain, type site for the Hollywood phase, dating from ca. A.D. 1250–1350 (DeBaillou 1965; Thomas 1894). In the smaller of the two mounds, richly accompanied burials were found in the lowest part of the mound, over which were found several burials with much less elaborate grave goods. Mound construction ceased sometime in the Hollywood phase, about the same time or slightly later than the abandonment of the platform mound at Irene and, as at that site, the platform mound at Hollywood was used by subsequent Irene peoples as a burial mound. In this case, however, all that was done was the placement of urn burials in the existing upper mound fill, without any other construction or modification.

Evidence for elite impoverishment was also indicated at Beaverdam Creek in the Lower Piedmont. Six construction stages were found in the single mound present at this site, which dated to the Beaverdam phase from ca. A.D. 1200–1300 (Rudolph and Hally 1985). Two successive earth-embanked structures were built, followed by four platform-mound stages, a construction sequence similar to that observed in the primary mound at Irene, which was occupied about this same time and may have had a somewhat similar occupational history. Because earth-embanked structures are typically assumed to represent quasi-egalitarian communal meeting areas, similar to council houses (Rudolph 1984), this construction sequence suggests the local society was becoming increasingly complex and hierarchical. A burial with extensive extralocal prestige goods of copper and shell was found in the fill between the earth-embanked structures, however, suggesting some form of social hierarchy was already present even before platform-mound construction began. This inference is also supported by the other mound burials; grave good incidence was highest in the earliest phases of site use and then appears to have declined markedly over the remainder of the occupation (Anderson 1990a, 568–73; Rudolph and Hally 1985, 348–51). The unusual elite burial interred during the interval between the abandonment of the first structure and the construction of the second is strong evidence

for an association between the death of an elite and public construction activity locally.

At the Rucker's Bottom in the central Piedmont two small Middle Mississippian agricultural communities were found that appear to have been occupied from about A.D. 1200 to 1450 (Anderson and Schuldenrein 1985). Both the earlier Beaverdam phase and later Rembert phase villages were characterized by structures about plazas, a typical Mississippian arrangement. Large circular buildings were found in both villages fronting on the plazas that have been interpreted as council houses, and their presence may indicate considerable local decision-making authority. Between fifteen and thirty houses and probably on the order of 100–150 people were present in these communities at any given time. The inhabitants of the earlier village, presumed commoners, likely submitted tribute to elites at the nearby Beaverdam Creek mound center, which was located about 12 km downstream. Compared with the individuals found at the center, the Rucker's Bottom villagers were shorter in stature, in much poorer health, and interred with less elaborate grave goods, if they were buried with any at all (Anderson 1994b, 223–25; Weaver et al. 1985). The tributary demands presumably placed on the villagers may explain the observed differences in relative skeletal health and in stature between the two populations.

Some time after A.D. 1300 the Beaverdam Creek mound center was abandoned and political power in this part of the drainage became concentrated at Rembert, which was likely the center of a complex chiefdom. The village at Rucker's Bottom relocated a hundred meters up the terrace, and simple ditch and stockade fortifications appeared, suggesting the site had become something of a fortified center or retreat for local populations. The villagers appear to have enjoyed greater autonomy than their presumed ancestors in the earlier village, as they were in better overall skeletal health and no evidence was found for food leaving the site as tribute. Compared with the earlier, Beaverdam phase occupation, subsistence was highly focused, with a much narrower range of species exploited and an emphasis on deer and acorns. Intensification of large mammal procurement may have been brought about by a need to maximize hunting return, permitting increased labor for farming or defense. It might also reflect the depletion of game in the locality. As at the other

sites examined in the central and lower valley, the Rucker's Bottom village was abandoned about A.D. 1450.

Before the site was abandoned, there is some evidence to suggest its inhabitants were experiencing appreciable stress. The fortifications surrounding the village were replaced at least once, at which time they were enlarged and strengthened. Posts in the palisade lines were increased from 15 to 30 cm in diameter, the shape shifted from semicircular to rectangular, and a larger ditch was excavated in front of the stockade. Protection of stored food reserves appears to have been increasingly important, something that may be linked to the below-average rainfall conditions during this period. Storage in both villages is assumed to have typically been in above-ground facilities, like the barbacoas reported by the early Spanish explorers (Judge 1991). A number of small circular and rectangular post-hole concentrations, found in both the earlier and later villages, may represent storage buildings or corncribs. During the later occupation, however, massive subterranean storage features also appeared, one located behind a house against the stockade and another in the center of the plaza area. Their locations, in highly public as well as private or obscure places, suggests the villagers may have been trying to hide at least some of their food reserves, as well as place their probable public storage facilities in areas where their use would have been visible to everyone.

The Rucker's Bottom village appears to have been abandoned by its inhabitants rather than destroyed in warfare. Some low-level conflict may have been occurring, however, because the only multiple burial found at the site, a group of three individuals lying extended on their backs, came from the later, Rembert phase village. If these people were ambushed by raiders, it would fit with the pattern of skirmish warfare expected at this time, when buffer zones were likely increasingly challenged. A series of such losses to such a small community might well have prompted site abandonment. No evidence for burning of structures was found, however, although at least one structure dating to the final period of occupation had been abandoned and had later been used as a butchering area and bone dump. Whether this reuse of a residence as a butchering/dumping area was associated with the abandonment of the village or merely with the abandonment of this structure at some earlier time is unknown.

The Chauga site in the extreme upper reaches of the basin was first occupied during the Jarrett phase from about A.D. 1100–1200, when six mound stages were built, and again starting ca. A.D. 1400 to 1450, during the Tugalo phase and after, when four additional stages were erected (Kelly and Neitzel 1959, 1961). Palisades were present during Stages 1 and 6, at both the start and the end of the Early Mississippian occupation. As at Beaverdam Creek and Hollywood, clear evidence for a gradual impoverishment of the site elites is evident in the burial assemblage found in the mound, a pattern that was observed in both the Early and the Late Mississippian occupations (Anderson 1994b, 302–5). At Tugalo, another center in the northern part of the basin, a transition from earth-embanked structures to substructure mound mantles was documented during the Early Mississippian period, a pattern like that observed at Irene and Beaverdam Creek (Duncan 1985; Williams and Branch 1978). Well-defined log mantles were found over the slopes of Mound Stages 2 through 4, and a fence line was built around Stages 3 and 4, prior to the abandonment of the center after Stage 5. The fence lines around Stages 3 and 4 had burned, as had the log mantle on Stage 4, something that may have been caused by warfare, by accident, or, possibly, by the intentional use of fire in mound building and renewal activities.

A transition from earth lodges to mound stages was also noted at Estatoe in the upper basin, where six construction episodes were identified in the Late Mississippian mound, built after A.D. 1450 (Kelly and DeBaillou 1960). The first five stages were very thin, with only a few centimeters of fill separating one from the next. Each was surmounted by a large structure that resembled the public buildings found in the lowest stages of the primary mounds at Irene, Beaverdam Creek, and Tugalo, although no earthen embankments were found. The presence of these buildings suggests that decision making may have been fairly egalitarian locally during the early Tugalo phase. A thick stone layer was placed over the first five stages, and a true platform mound was erected, again surmounted by a structure. Even given the dramatic architectural separation of the last stage from the first five, continuity was indicated by the reuse of the corner-support post holes from the previous structures.

The delay in the emergence of a platform mound at Estatoe may

indicate political control was initially based elsewhere, perhaps at Tugalo or Chauga, which had earlier Tugalo phase occupations. If populations from the central and lower basin moved upriver in the fifteenth century, they would have encountered established Mississippian groups in the headwaters. The new residents would have likely had to acknowledge the primacy of the older centers and their leaders, especially if they were refugees and unable to challenge the local chief's power and authority. That elites eventually did emerge at Estatoe, and the center developed appreciable local autonomy, is indicated by the construction of the final mound stage. Although separated from the previous stages by the thick rock layer, suggesting a considerable change had occurred, continuity was also indicated by the reuse of earlier post holes, suggesting population replacement is unlikely and that the emergent elites were local in origin.

General Trends Associated with Political Change in the Savannah River Basin

A wealth of archaeological evidence for political change has been found on Mississippian sites in the Savannah River basin. The emergence of stratified chiefdoms, we have seen, was characterized by a replacement of earth-embanked structures or council houses by structures atop platform mounds at several sites, notably Irene, Beaverdam Creek, and possibly Tugalo. A council house reappeared on at least one site, Irene, moreover, following the abandonment of the platform mound. These architectural changes are thought linked to changes in organizational structure, from decision making by consensus to decision making in the hands of an elite. The presence of council houses on a site does not, however, indicate an egalitarian social hierarchy was present. Council houses were observed in the Rucker's Bottom villages, both when the nearby Beaverdam Creek site was the center of a presumed simple chiefdom and later when Rembert was apparently the center of a complex chiefdom. This suggests outlying communities had at least some autonomy and control over local affairs in even the most complex chiefdoms. It further suggests that council houses or public decision-making forums were probably in use throughout the Mississippian period locally, although their role was probably diminished at chiefly centers.

The Savannah River data also indicate that the appearance of fortifications in many cases signals either the emergence or collapse of chiefly organizational structures. Prior to site abandonment, fortifications appeared around entire communities at Irene, Rucker's Bottom, and possibly Tugalo, and around or atop platform mounds at Irene, Chauga, and Tugalo. They also appeared at Chauga when the center was first founded. Collapse does not appear to follow inevitably, or at least immediately, when fortifications appeared, however. Irene was occupied for some time following the appearance of fortifications around Stage 3, with platform-mound construction only ceasing following Stage 7, presumably several generations later. The presence of fortifications does not appear to signal the occurrence of intensive warfare, furthermore, because there is little evidence for this other than at Irene. What the appearance of fortifications may signal is that the position of the elite was becoming less secure.

Evidence for an impoverishment of chiefly centers prior to their abandonment was documented through mortuary analyses at several mound sites, including at Irene, Hollywood, Beaverdam Creek, and Chauga. At all of these sites a decline in the proportional occurrence of burials with grave goods, and particularly elaborate grave goods of shell or copper, occurred in the later periods of occupation. A similar decline in the occurrence of grave goods was observed in the commoner burials at the Rucker's Bottom village prior to the abandonment of that site, suggesting (if not a change in mortuary practices) impoverishment may have reached all levels of society.

Most significantly, the mortuary evidence from the Savannah River basin indicates elite impoverishment did not quickly lead to organizational collapse, a finding somewhat different from that predicted by traditional models (that is, Peebles and Kus 1977). Instead, at several centers, including Hollywood, Beaverdam Creek, and Chauga, one or more later stages of mound construction occurred during periods characterized by a significant decline in the occurrence of prestige goods in burials. Elite control did not, therefore, appear to depend upon these symbols, at least over the short term. The decline in grave offerings observed at Rucker's Bottom, furthermore, suggests impoverishment was societywide, not just centered on elites or at centers. This suggests care should be taken when

inferring chiefdom organizational collapse to a decline in the availability of prestige goods. At Irene, the decline in the incidence of grave goods in burials in the mortuary indicates this kind of impoverishment may even signal trouble in more egalitarian societies.

More than 400 Mississippian human burials have been recovered from the Savannah River basin to date, from mound, village, and hamlet contexts, and these data offer invaluable assistance in understanding the lives of commoners and elites during the Mississippian period (Anderson 1994b, 311–16). At three of the centers, Beaverdam Creek, Chauga, and I. C. Few, burials were recovered from both mound and village areas. At each site proportionally far more females than males were found in the village areas than in the mounds, and, except at Chauga, the burials in the village area typically had a much lower incidence of grave goods. Mound burial appears to have been restricted to high-status adults, typically males, or young children, with adolescents excluded (Blakely et al. 1985; Kelly and Neitzel 1961, table 1; Stout 1972). The data suggest that once past early childhood, status had to be achieved, even among the elite, and the way this was done was by surviving adolescence. Comparison of the contemporary skeletal series at Beaverdam Creek and Rucker's Bottom, representing presumed elite and commoner segments of a single population, indicated significant differences in life-style. Skeletal pathologies in the Beaverdam Creek Mound sample were rare, and most of the population was in good health (Blakely et al. 1985). In the Beaverdam phase population at Rucker's Bottom, in contrast, most of the individuals exhibited some form of disease or pathology, something attributed to a poorer diet and a harder life than that enjoyed by the elites at the center (Weaver et al. 1985).

Zooarchaeological analyses at Rucker's Bottom, specifically of deer-element occurrence, indicated that choice cuts of meat were leaving the earlier village, and that this pattern ceased in the later occupation (Scott 1985, 662–64). This pattern presumably reflected the submission of tribute to a nearby center, such as the Beaverdam Creek site. Almost twice as many deer hindquarter as forequarter elements were found in the faunal samples from Beaverdam Creek, interestingly, supporting the inference that the elites at this site were receiving food from elsewhere (Reitz 1985, 424). The decline of the Beaverdam Creek center and the emergence of Rembert, which

is located much farther away, appears to have led to reduced tribute demands on the inhabitants of Rucker's Bottom.

The emergence of intensive agriculture in the Savannah River basin was recognizable not only from the presence of corn and other domesticates in the archaeological record, but also from evidence for land clearing and successional change in forest composition, which was noted at both Beaverdam Creek and Rucker's Bottom (Fish 1985, 411–16; Moore 1985, 690–92), and through stable carbon- and nitrogen-isotope analyses on human skeletal remains from the Irene site (Larsen et al. 1992; Schoeninger et al. 1990). At Irene extensive use of maize begins following the St. Catherine's phase, during the Savannah I/II and III phases. Following the transition to the Irene I phase, decreased use of maize and increased use of wild terrestrial resources is indicated, something that may have been brought about by the collapse of the Savannah III phase chiefdom and a corresponding reduction in tributary demands for the agricultural products necessary to finance elite agendas.

A highly diversified subsistence economy characterized the early Mississippian occupations at both Beaverdam Creek and Rucker's Bottom, suggesting the early Mississippian economy was less focused than that observed in later periods (Rudolph and Hally 1985, 446; Moore 1985, 689, 691; Reitz, Marrinan, and Scott 1987, 217; Scott 1985, 661). At Rucker's Bottom, at least, the adoption of a diversified diet may have been prompted by subsistence stress, something brought on, at least in part, by tributary demands on the local population. Increasingly focused subsistence, with greater use of deer and acorns, in contrast, was observed in the later village occupation at Rucker's Bottom, suggesting a concern with maximizing hunting return and carbohydrate production, perhaps to free labor for farming or defense (Speth and Scott 1985, 257). The extended occupation of the village may have also depressed local game resources, requiring more extended hunting forays. The climatic deterioration that occurred at this time also likely forced increasingly efficient use of wild plant and animal resources. Given repeated harvest shortfalls, the greater use of acorns that is observed may have been an attempt to supplement agriculturally produced carbohydrates. If local populations had indeed become relatively free of tributary obligations, less emphasis on the production of corn and greater use of wild food

resources may have been a result, a pattern that is also suggested at Irene at this time.

Conclusions: Organizational Cycling and the Abandonment of the Centers and Regions

The lessons about the causes of political change learned in the Savannah River basin should have applicability elsewhere in the Southeast, where similar events are observed during the Mississippian era. Climate, resource structure, and regional political geography all appear to have been important in shaping the history of the Savannah River chiefdoms. Although both environment and politics were important, neither environmental determinism nor historical forces alone is sufficient to fully explain, and help us understand, what happened locally. Monocausal explanations of complex culture change, in this view, although satisfying in their simplicity, are incomplete and hence suspect for the same reason.

So why was much of the Savannah River basin depopulated after ca. A.D. 1450? This abandonment, I argue, was caused by combination of factors, of which the size, location, and nature of the resources in the Savannah River basin compared to nearby drainages, as well as changes in the regional political landscape and variation in growing season rainfall, were among the most important. The rise of powerful Mississippian societies in the Oconee and Santee-Wateree drainages to the west and east of the Savannah, respectively, may have been the single most critical factor. During the period of initial Spanish contact in the mid-sixteenth century, the provinces of Ocute and Cofitachequi were present in these areas, and it is suggested that their strong rivalry and bitter enmity had an effect on the polities along the Savannah River, who were literally caught between them. Fortifications and other evidence for warfare appear at several sites along the Savannah in the century preceding the depopulation of the central and lower basin, suggesting political relationships between the region's polities may not have been the best.

At the same time that the political landscape was becoming increasingly hostile, food reserves throughout the region may have been severely stressed. These developments could well have been related and unquestionably would have put considerable pressure

on the agriculturally based chiefdoms in the Savannah River basin and beyond. Although Mississippian populations could have compensated for localized crop shortfalls by using wild plant and animal resources, increased use of the buffer zones during an era of conflict and competition would have likely been progressively more dangerous. Given an inferred lower overall population base (that is, when the size and resource structure of the Savannah is compared with that of nearby major drainages) and a position between major polities, over time the numerous small skirmishes resulting from use of the buffers would have been a war of attrition the Savannah chiefdoms could not hope to win. By the middle of the fifteenth century the situation was such that large areas within the basin were abandoned and remained unoccupied for almost two centuries. That populations did not return to the lower basin once rainfall conditions improved, something that happened at the end of the fifteenth century, highlights the importance of historical and political forces in shaping and then in maintaining this abandonment. Neither favorable climate nor vacant prime agricultural land could induce populations to return when the political landscape was such as to make this action untenable.

Acknowledgments

I wish to thank John Scarry for inviting me to participate in this volume, and for his patience in waiting for the final version of this chapter. Many of the arguments presented here are discussed in greatly expanded form in *The Savannah River Chiefdoms: Political Change in the Late Prehistoric Southeast*, a revised version of my doctoral dissertation that was published by the University of Alabama Press in 1994. To my dissertation committee I owe a great debt of thanks for their extensive advice and assistance (Richard I. Ford, chair; Henry T. Wright; John D. Speth; and William Farrand). Also important were the many friends and colleagues in the southeastern archaeological community, and far beyond, who helped shape the observations about the analysis of chiefdoms presented here and in chapter 10. To all of you, my thanks.

TEN

Fluctuations between Simple and Complex Chiefdoms: Cycling in the Late Prehistoric Southeast

David G. Anderson

Chiefdoms are societies characterized by genealogically sanctioned leadership structures, tribute mobilization, and the limited redistribution of goods to lesser elites (Earle 1977, 225–27; Peebles and Kus 1977, 425–26; Service 1971, 134, 144–45, 159; Spencer 1987, 369; Steponaitis 1978, 428; Wright 1984, 45). Essentially two social strata are present, chiefly elites and commoners, with subdivisions in these strata directly related to polity size and organizational complexity (Feinman and Neitzel 1984, 57). Control of labor directed to surplus production and mobilization was of critical importance to furthering elite agendas, which typically centered on maintaining and enhancing personal prestige and power. This was accomplished, in part, through the redistribution of food and sumptuary items to lesser elites, usually close kin of the chief, as well as to other potential supporters, for the purpose of developing or maintaining a power base. Regularized redistribution for the benefit of all segments of society, to buffer subsistence shortfalls or ensure the exchange of resources unevenly distributed over the landscape, however, was uncommon.

Chiefdoms are also multicommunity political units, with the control of activities in a number of distinct villages, hamlets, or subsid-

iary centers directed by a hereditary decision-making group or elite typically residing in a central community (Carneiro 1981, 37–38; Earle 1987, 288). Lesser elites were sometimes dispersed over subsidiary communities as headmen or overseers. Ultimate decision-making authority theoretically resided in the hands of one individual, the chief, although the opinions and support of other elites was often of critical importance in day-to-day matters, just as maintaining the support of the populace was crucial over the long run. The size and power of a chiefdom can thus be measured by the number of polities or communities under the direct or indirect control of the primary center, whereas the importance of individual settlements in the political hierarchy can be determined, to some extent, by their size and the relative condition and treatment of their inhabitants, particularly their leaders.

The number of levels in the administrative hierarchy, or steps in the chain of the chiefly command structure, thus provide an effective measure of the organizational complexity of a chiefdom. The terms *simple chiefdom* and *complex chiefdom* are widely used to describe societies characterized by one and two administrative or decision-making levels above the local community, respectively (Steponaitis 1978, 420). The actual situation is somewhat more complicated, however, because most primary centers, whether of simple or complex chiefdoms, maintained direct control over populations in hamlets and villages that were close at hand, thus circumventing the need for a secondary administrative level (Milner and Schroedel 1994) (fig. 10.1). Three-level administrative hierarchies could also occur, specifically when one complex chiefdom acknowledged the authority of another, a situation indicated both archaeologically and in the early historic accounts from several parts of the Southeast (for example, Hally, Smith, and Langford 1990; Hudson et al. 1985, 1987; Milner 1990). The term *paramount chiefdom* has been proposed to describe the situation when a complex chiefdom exerts direct or indirect control over a series of other chiefdoms, including at least one other complex chiefdom.

How chiefly control was exercised varied appreciably and appears to have been related, at least in part, to societal size and organizational complexity. The authority a chief had over people in his own and other communities varied from absolute in some cases, with unquestioned obedience asked and received, to more indirect in others, more an acknowledgment of power relationships and a willingness to offer tribute and service than a pattern of direct administration from a primary center. Given organizational limitations inherent in chiefdom society, specifically the difficulty in achieving direct administrative control over polities more than one or two days' travel time from a center, direct control by chiefly elites over appreciable areas was simply not feasible. As a result, the territory under the direct administrative control of most southeastern chiefdoms appears to have rarely exceeded 40 km in any direction (Hally 1993). The area under the *indirect* control of a center, where power relations were determined either voluntarily or through threats or

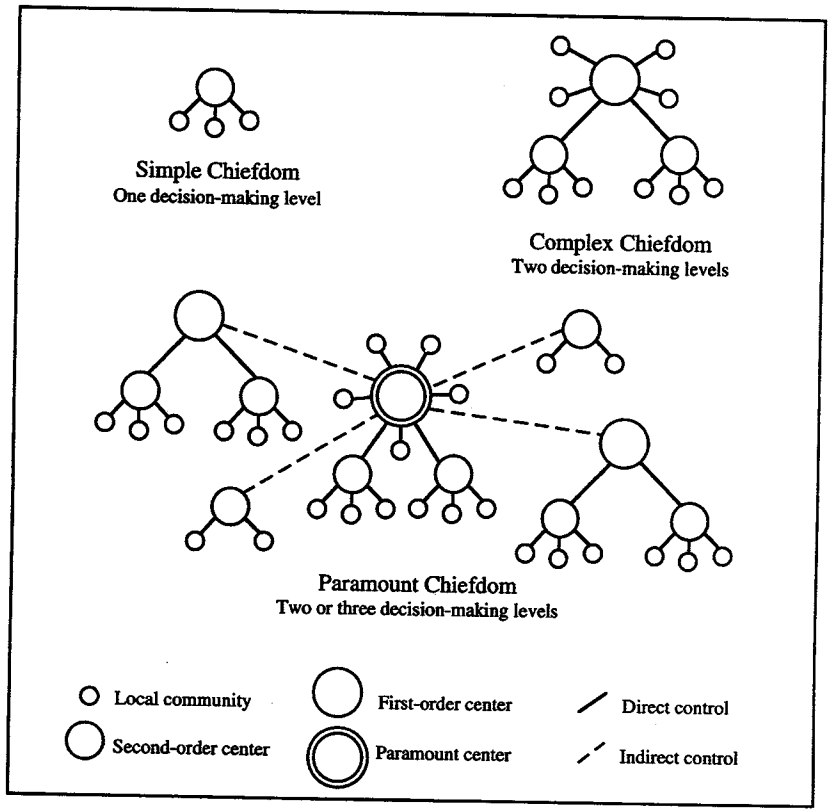

Figure 10.1. Idealized control hierarchies in simple and complex chiefdoms (modified from Anderson et al. 1994a, 9; Milner and Schroeder 1994)

coercion, however and in contrast, could be much larger, as was often the case in the region's complex and paramount chiefdoms.

Cycling Behavior in Chiefdom Society

Organizational change in chiefdoms includes fluctuations between simple and complex/paramount chiefdoms, a process I have elsewhere called cycling (Anderson 1990a, 24–26; 1994b). More specifically, cycling encompasses the transformations that occur when the administrative or decision-making levels within the chiefdoms occupying a region fluctuate between one and two or (in the case of some paramount chiefdoms) three levels above the local community. Evidence for cycling is widespread, to the point where it appears to be a basic characteristic of chiefdom society, although its detection and identification requires examination at broad spatial and temporal scales, encompassing regions and generations. Archaeological analysis, fortunately, is ideally suited to the exploration of such processes.

Shifts in administrative hierarchies—the information processing and management control networks of chiefdom society—comprise a critical aspect of cycling behavior. How changes in administrative and control structures occur and, as a result, bring about changes in organizational complexity is a subject that has seen appreciable research, much of it directed to understanding how both chiefdoms as well as state-level societies could have emerged, and particularly how the latter social form could have developed from the former (for example, Earle 1987, 292–93; Earle 1991; Flannery 1972; Johnson 1973, 1978, 1982; Peebles and Kus 1977, 427–31; Wright 1969; Wright 1977, 381–82; Wright 1984, 42–44; Wright and Johnson 1975). Examining cycling can lead to a better understanding of such questions because, as an apparent inherent aspect of chiefdoms, the existence of the process suggests there are alternatives to unilineal evolutionary models of state formation, as well as new frameworks through which we explore and understand how long-term organizational change does occur (see also Yoffee 1993).

To understand how changes in administrative levels can occur, it is helpful to understand how these structures formed and operated in the first place. That is, how did hereditary decision-making groups emerge, and how did the authority of a privileged few come to be accepted by the remainder of the population? This is, of course, a question that philosophers, anthropologists, and social scientists have wrestled with for centuries, and there is no clear consensus on an answer. The formation of hereditary decision-making groups is perhaps most commonly seen as a solution to increased information-processing demands brought about by environmental change, population pressure, or increased social interaction and political competition, particularly competition for followers, prestige, and power (for example, see discussions in Bender 1985; Brumfiel and Fox 1994; Clark 1994; Clark and Blake 1994; Earle 1987, 289; Marquardt 1987, 1988; Patterson and Gailey 1987; Shryock 1987). The process is assumed to have been fairly gradual, on the order of generations rather than years, and lacking in intentionality. That is, the end result, hereditary social ranking and unequal access to resources, was unforeseen by the generations of individual actors participating in the process.

In brief, social strata appear to have emerged around the decision makers occupying the positions or levels in nascent administrative hierarchies and, hence, the evolution of both social ranking and decision-making apparatuses appears to have gone hand in hand (Cordy 1981, 220–21). How specifically did this happen? Quite simply, the decision makers' largesse in dispensing rewards to relatives, assistants, and retainers would create a group of people with a vested interest in maintaining and perhaps expanding such a system. Those so privileged would likely over time come to be equated with the primary decision maker(s) and assume similar trappings of status. Simple chiefdoms, in this view, have two social-rank echelons, commoners (typically dispersed throughout the chiefdom) and elites (typically located primarily at the chiefly center), whereas complex chiefdoms are those with three or more rank echelons, encompassing commoners (again, dispersed throughout the chiefdom), lesser elites (at local centers), and apical elites (located at the primary center) (Cordy 1981, 3–4). Changes in administrative levels in chiefdoms, or cycling, should thus also be accompanied by changes in patterns of social ranking.

Causes of Cycling in Chiefdoms

Why does cycling occur, and how is the process related to the transformation of some chiefdoms into state-level societies, the mainte-

nance of many others for hundreds or thousands of years in seemingly evolutionary stasis, or the disappearance of still others from some areas altogether? The causes of cycling, I believe, are complex and multivariate and encompass everything effecting the organizational stability of chiefdoms, defined here as the maintenance of administrative complexity, as measured by the number of decision-making levels in operation. The adoption of a regional perspective is crucial to the investigation of cycling, because chiefdoms typically expand or contract at the expense of or in response to the actions of their neighbors. That is, centers of power shift over the landscape as first one community and then another assumes prominence, and it is this regional pattern of the emergence and decline of complex chiefdoms that is what is meant by cycling behavior.

Specific factors that can effect the organizational stability of chiefdoms include societal evolutionary and developmental histories; the strength of ideologies sanctifying chiefly authority; the potential for conflict when matters of chiefly succession, population growth, territorial maintenance or expansion, and/or the incorporation of outsiders arise; the ability of chiefdom organizational hierarchies to accommodate stress brought about by social or ecological perturbations, such as warfare, crop failure, exchange network collapse, or pressure on subsistence resources; the ability of chiefdom administrative structures to handle changes in information load; the degree to which the elite maintain control over subsistence production as well as access to nonutilitarian luxury or status-marking prestige goods; the position of individual polities in prestige-goods exchange networks; and the impact of developments in one chiefdom on other such societies, both nearby and over a much larger region.

Although a great many factors can bring about cycling, factional competition between elites for power and prestige, and particularly the office of the chief itself, appears to have been a primary cause of much of the organizational instability observed in these societies. Because positions of authority were typically based on kinship, this meant that a chief's principal supporters were also his potential successors, an inherent structural weakness of this form of political control. That is, although a chief was dependent upon supporters for the maintenance of power, he or she had to take care to suppress or constructively channel the ambitions of these people. How succession was determined was thus of particular importance to the long-term stability of these societies. Unless rules of succession were strictly delimited and adhered to, for example, the death of a chief could presage a period of social turmoil until a successful claimant emerged, a pattern well documented in the ethnographic accounts (for example, Burling 1974; Goldman 1970; Helms 1979; Kirch 1984; Sahlins 1958). Chiefly cycling was thus brought about, in part, by an internal contradiction in the kin-based structure of these societies, the necessity of placing potential rivals into positions of power from which they could mount successional challenges, activity that precluded the development of stable organizational forms (see also Anderson 1994a for additional discussion of factional competition in Mississippian society).

Successional events resulting in changes in the number of decision-making levels, or cycling behavior, must be differentiated from events that merely resulted in the replacement of one chiefly elite by another in the same role. Successional crises could result in cycling behavior, though. The replacement of a strong leader by an incompetent one could cause a complex chiefdom to fragment, whereas the succession of a particularly skilled individual might result in the expansion of a simple chiefdom to a position of dominance over its neighbors, a process that could have led to the formation of a complex chiefdom. Competition between elite individuals and their factions for control of chiefly offices and associated privileges thus appears to have only rarely been directed against the system itself, because the primary goal of all contenders was achieving these offices, not seeing to their destruction. Thus, although a successful rebellion could result in the fragmentation of a complex chiefdom, this was probably not an intended consequence.

Partial to near-absolute elite control over the labor and surplus production of commoner populations was another characteristic of chiefdoms. The regular production, appropriation, and storage of surplus, which was typically defined in terms of subsistence products, was particularly critical to the organizational stability of these societies (Lenski 1966, 44–45; Orans 1966; Sahlins 1958). Beyond providing for the subsistence needs of the elite, food surpluses could be used to finance activities intended to help legitimize their position and authority, such as communal feasting to demonstrate chiefly

largesse, the construction of monumental structures intended to make visual statements about the importance and abilities of the chief as well as the society in general, or the production and exchange of prestige goods intended to enlist supporters as well as co-opt potential rivals (Earle 1978, 225–27; Helms 1979; Peebles and Kus 1977; Steponaitis 1978, 1981). Surpluses could also be used by local elites to facilitate their direct or indirect interaction with elites and peoples at appreciable distances, thereby demonstrating a control over sacred or esoteric knowledge (Helms 1979). Factors effecting surplus production, mobilization, storage, and use such as climate, warfare, or access to resources could thus have an appreciable impact on chiefly administrative structures and, hence, these areas were a focus of elite life and concern.

The emergence and spread of chiefdom organizational forms appears to have been closely tied to regional patterns of demography and interaction. As chiefdoms emerged within a region, the presumed adaptive advantage of this organizational form would have facilitated its spread, assuming they enjoyed greater reproductive success than neighboring nonchiefdom societies. This process has been described in conflict theory terms by Carneiro (1981, 66), who argued that warfare and conquest was a primary means by which chiefdom organizational forms would spread throughout a region. Selection, or the differential reproductive success of the victorious populations, is implicit in this argument. Given the extent of interaction that occurred between prehistoric societies in the Eastern Woodlands, however, it is highly unlikely that the spread of one or a few emergent chiefdoms was the mechanism by which this organizational form spread over much of the region between ca. A.D. 900 and 1100 (Smith 1990). Once chiefdoms emerged anywhere in a region, the seeds would have been planted for their appearance everywhere, through processes of defensive reaction or competitive emulation. That is, chiefdom organization forms may have been adopted as a form of self-defense by groups that perceived themselves threatened, or alternatively, they may have been adopted because this type of organization, once in place, would enhance the interests of certain groups. Regional patterns of prestige-based competition between potential emergent elites are thus thought by some scholars to have been the means by which the contemporaneous emergence of chiefdoms over a large areas occurred, in which conflict was only one of the ways that elite competition could have been acted out (Clark 1994; Clark and Blake 1994; Renfrew and Cherry 1986).

Once simple chiefdoms were in place within a region, the stage was set for the emergence and collapse of complex chiefdoms, or cycling behavior. Dramatic population shifts likely occurred as rival elites competed for followers, and as people were either killed, expelled from, or incorporated into the more successful polities. If, as appears probable, differential reproductive success accrued to capable leaders (for example, Betzig 1982, 1986; Betzig, Muldur, and Turke 1988; Chagnon and Irons 1979; Turke and Betzig 1985), and assuming no population-control or status-leveling mechanisms were in place, the resulting elite population growth may have forced expansion. That is, as increasing numbers of elite children were produced by the success of the system, places had to be found for them. The need to disperse possible contenders for power as well as maintain chiefly prerogatives amid increasing numbers of elite consumers may thus have driven the geographic expansion of some chiefdoms. In particular, if the numbers of elite increased too far, they may have placed strains on the ability of the remainder of society to provide for them, threatening overall organizational stability.

The power base of a chief was also linked to demographic patterns within specific communities, specifically the numbers of a chief's close supporters, typically his or her primary and affinal kin, compared to the numbers of nonkin and rival elites (Turner 1957, 61–62). Chiefs that had to deal with large numbers of nonkin may have been in a more precarious position than those in communities where kinship linked large segments of the population. When a chiefdom expanded, rival elites had to be either eliminated or co-opted, and unless this was done properly they might soon come to represent rival power bases. This was particularly true of elites situated in areas at some distance from the main center, and hence out from under its direct control. Chiefly cycling, from the perspective of conflict theory, thus represents a repeated pattern of conquest, expansion and, ultimately, overextension leading to organizational collapse, from which complex chiefdoms eventually emerged anew, as regional elites vied with one another to fill the power vacuum.

Regional physiographic structure, resource productivity, and cli-

mate were also important factors shaping and constraining chiefdom organizational stability. Regional physiographic structure placed constraints on the location and spacing of individual settlements, centers, and polities, as well as the avenues and directions along which communication and trade could occur (Clark and Blake 1994, 19–20; Carneiro 1970, 734–35; Hodder and Orton 1976, 224–36; Johnson 1977, 488–94; Johnson 1987, 115ff; Scarry and Payne 1986). The size, distribution, and stability of chiefdoms in various parts of the Eastern Woodlands appears to have been shaped, at least in part, by local and subregional physiographic conditions. In the eastern part of the region, from Alabama through the Carolinas, for example, the local Mississippian polities were typically fairly small and widely separated from one another, a pattern likely shaped by the widely separated, linear riverine systems that characterize this part of the region. In parts of the Central and Lower Mississippi River Valley, in contrast, chiefdoms tended to be more tightly packed on the landscape and, in some areas like the American Bottom, were appreciably larger than their counterparts in the eastern part of the region. This may be due to the tremendous subsistence resources and agricultural potential of the land along the Mississippi and its tributaries, the relative ease of transportation over long distances along these same rivers, and the more open or unrestricted environment, facilitating extensive interaction.

The occurrence and availability of plant and animal populations, agricultural soils and water, as well as short- and long-term variation in rainfall, frost, sunlight, and other climatic variables played a major role in shaping subsistence production and the generation of surplus, something particularly crucial to the maintenance of organizational stability of chiefdoms (Anderson, Stahle, and Cleaveland 1995; Cordy 1981, 30–44; Orans 1966; Sahlins 1958, 107–35, 201–17). Food resources and surplus production had to occur at levels sufficient to maintain elite prerogatives, which meant that land-management and storage systems had to be in place to ensure this was the case. Strategies by which this was attempted included the dispersal of agricultural fields over a number of microenvironments and over large areas to avoid the effects of localized climatic fluctuations; the dispersal of storage facilities in a number of communities, coupled with attempts to guard, hide, or restrict access to these reserves; and

the creation and maintenance of extensive hunting territories or buffer zones, from which wild food resources could be drawn to supplement crop yields (Burns 1983, 186–87; Chmurny 1973; DeBoer 1988; Ford 1980; Gluckman 1951, 9–10; Hickerson 1965; Mech 1977). Repeated harvest shortfalls, losses of stored food reserves, or infringement on resource/buffer zones could have, over time, been devastating to these societies.

The means and success by which chiefly elites received and processed information and then made decisions was also important in shaping the organizational stability of chiefdoms. Poor decisions by the elite could be disastrous if they disrupted the subsistence economy, resulted in great losses in warfare, or led to the collapse of exchange and interaction networks. That this happened frequently is well documented in both history and ethnography, where numerous examples can be found of incompetent rulers dissipating the accomplishments of their predecessors. The kin-based administrative systems of chiefdoms were such that, except in rare cases, the direct administration of outlying communities more than a day or two's travel from a center was rare (Hally 1993). The larger and more complex the chiefdom, as a result, the more difficulty it had with administrative and information processing demands. One measure of the information load, or potential stress a chiefdom was under, is span of control, or the number of subsidiary communities or centers under a given administrative center (Johnson 1982, 410); this can sometimes be inferred archaeologically using settlement data. As complex chiefdoms thus formed and expanded, the administrative load on the chiefly elites in these societies likewise increased, leading to either information overload and system collapse or the emergence of more effective or efficient decision-making apparatus. Except where primary or secondary state formation occurred, however, system collapse was what typically ensued. Cycling can thus also be viewed, in part, as an alternation between successful and unsuccessful responses to information processing demands resulting, respectively, in the formation and collapse of complex chiefdoms.

From the preceding discussion, it is evident that the study of cycling necessitates the consideration of a wide range of factors promoting either organizational stability or instability. Causal links exist between many of these variables, furthermore, indicating that

exploring chiefly cycling requires the consideration of a complex and diverse array of variables. Documenting the process in the southeastern United States and advancing explanations for its occurrence occupies the remainder of this chapter.

Evidence for Cycling in the Mississippian Chiefdoms of the Southeastern United States

The late prehistoric and early contact era chiefdoms of the Southeast offer an outstanding laboratory for the study of cycling. Evidence for the emergence, expansion, collapse, and reemergence or replacement of both simple and complex chiefdoms has been found throughout the region, and the historical trajectories of major regional polities like those centered on Cahokia, Moundville, and Etowah have long intrigued scholars. Some centers were occupied for centuries; others saw use for little more than a generation or two, and in some cases the abandonment of a center was associated with a much larger pattern of depopulation, up to and including major portions of river valleys, such as along the Central Tennessee, the Lower and Middle Savannah, or parts of the Central Mississippi Valley (Anderson 1991; S. Williams 1990).

The archaeological database that can be brought to bear on these kinds of questions in the Southeast is immense, rivaling that in existence anywhere in the world. Literally tens of thousands of Mississippian sites have been recorded in the region, and hundreds have been extensively excavated, many in recent years in projects directed to the recovery of a wide range of information. Fieldwork, which a century ago was directed almost exclusively to mound exploration, has for many years been directed to the entire known range of site types, including centers, villages, hamlets, and special-activity locuses. In many parts of the region artifact-based chronological resolution on the order of 100-year intervals or less is possible, permitting the detailed investigation of settlement patterning, land use, and political change. An extensive historic record also exists describing southeastern chiefdoms during the period of initial European contact in the sixteenth century. Finally, extensive paleoenvironmental research has been conducted in recent years, work directed to the documentation and reconstruction of lithology and physiography,

vegetational communities, fluvial dynamics, site-formation processes, and climatic conditions, and their impact on human populations.

Evidence from Early Historic Accounts

At the time of initial European contact in the early sixteenth century, chiefdom societies were observed over much of the Southeast. The records of early explorers, most notably those from the De Soto, De Luna, and Pardo expeditions, contain a wealth of information about the internal organization, operation, and external relationships of these societies, including accounts of chiefly succession, warfare, tribute flow, buffer zones, the abandonment of towns and centers, and the effects of crop failures or other disasters on leadership positions (for example, Anderson 1994b; DePratter 1983, 1989; Dye 1990; Hudson 1976, 1986, 1990; Hudson, Smith, and DePratter 1984; Hudson et al. 1985, 1987; Knight 1981, 1986, 1990; Smith 1987; Smith and Hally 1992). Three and possibly four paramount chiefdoms were found in the South Appalachian area at the time of initial European contact that the Spanish described as the provinces of Apalachee, Coosa, Ocute, and Cofitachequi (DePratter 1989; DePratter, Hudson, and Smith 1983; Hally, Smith, and Langford 1990; Hudson, Smith, and DePratter 1984; Hudson et al. 1985, 1987; J. Scarry 1990b, 1994b) (fig. 10.2). These societies were characterized by a paramount chief ruling or at least owed fealty from a series of quasi-autonomous lesser chiefs and elites that themselves ruled simple or complex chiefdoms. A two-level decision-making hierarchy is evident in the region's simple chiefdoms, corresponding to officials at villages and centers, whereas a three-level decision-making hierarchy is evident in complex and paramount chiefdoms, corresponding to officials at the villages, secondary centers, and at the primary center (Hudson 1990, 61). These levels corresponded to village headmen (oratas), chiefs over a fairly appreciable number of subsidiary communities (micos), and paramount chiefs ruling extensive territories (cacique grandes). Ocute does not appear to have been as well integrated as the other three, because the accounts make no mention of the presence of a cacique grandes, and this province may instead represent a weakly linked group of simple and complex chiefdoms.

Factional competition directed to obtaining chiefly office was

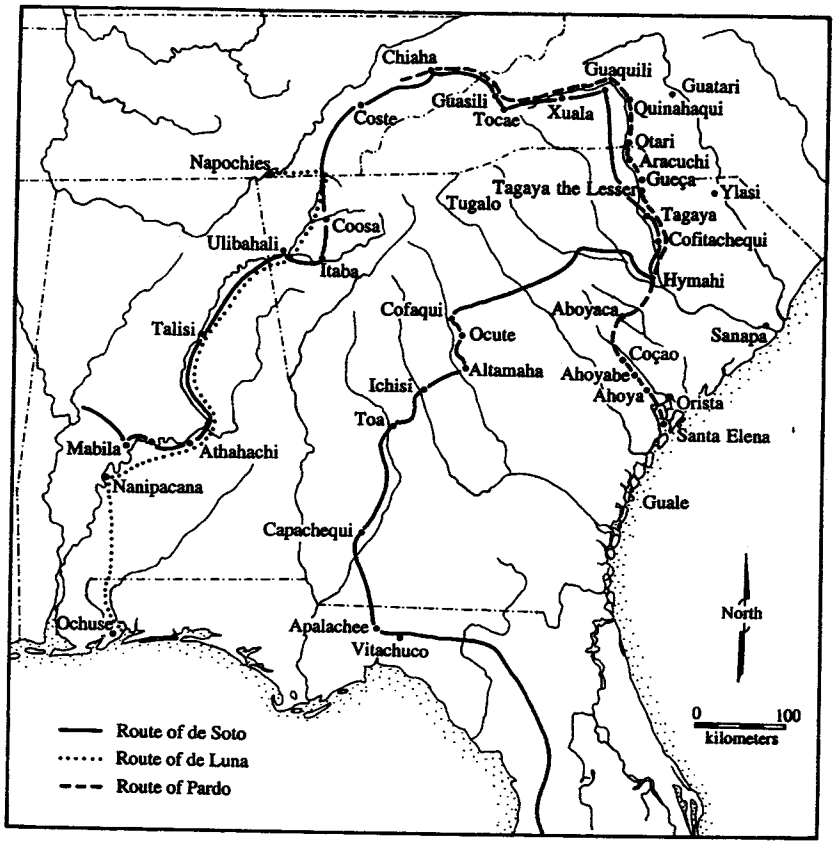

Figure 10.2. Mississippian chiefdoms in the south Appalachian area in the mid-sixteenth century

widespread in Mississippian chiefdoms of the contact era, and some of the accounts are quite graphic in describing the bloodshed that sometimes accompanied chiefly rivalries (Vargas Ugarte in Marquardt 1988, 180; Vega in Shelby 1993, 394–406). Succession was typically matrilineal, that is, from a chief to his sister's son, or nephew, something well documented in the early accounts, whereas postmarital residence, at least in the latter historic era, was matrilocal (DePratter 1983, 100–110; Hudson 1976, 185–95; Murdock 1967, 114). Because this would have resulted in male chiefly heirs relocating to their wive's communities upon marriage, some kind of exception was likely made, to ensure chiefly succession continued within a given community. That is, newly ascendant chiefs either relocated to the central community or their wives did; given various accounts describing polygyny (Swanton 1946, 701–9), it is likely that chiefly elites remained in their home community. Although subsidiary elites administering outlying communities were often related to the chief, it is not known whether their children succeeded to power or new elites were imposed from the primary center when leadership there changed hands. Matrilineal succession coupled with matrilocal residence could have thus been potentially quite destabilizing to these societies. Whether and under what circumstances chiefly succession was peaceful or violent is likewise not well understood. Although resolving archaeological evidence of succession is difficult because of the short time scales involved, there are accounts that indicate the death of a chief in some societies was marked by the construction of new mound stages or other facilities (Le Petit in Swanton 1911, 103; Swanton 1946, 726, 729).

Warfare played a major role in the cycling of Mississippian chiefdoms over the region, and in the rise and decline of individual societies (DePratter 1983, 44–67; Dye 1990; Larson 1972). The historic accounts provide a number of examples of military circumscription, and the tactics by which one chiefdom achieved domination over another. The province of Cofitachequi, for example, appears to have grown through a gradual war of attrition at the expense of the neighboring province of Ocute (Vega in Shelby 1993, 268), and quite possibly at the expense of the chiefdoms of the Savannah River in the late prehistoric era as well (Anderson 1994b; see also chapter 8 in this volume). Repeated minor victories in skirmish warfare, centered on the ambushing of hunting parties, rather than sudden all-out attacks on central settlements had, over time, resulted in the demoralization of the Ocute elites, and made them reluctant to challenge the people or enter the territories of Cofitachequi. The long-term effects of small-scale warfare could thus be as devastating as more intensive campaigns and could include the appropriation of tribute from defeated elites, the collapse of chiefly authority, and the relocation of populations. Although ecological factors such as competition for hunting territory, agricultural land, or cleared fields have been suggested as primary reasons behind Mississippian warfare (Gramly

1977; Larson 1972; Turner and Santley 1979), there is little documentary support for such an inference, aside from the accounts that indicate skirmish warfare could have had the effect, whether intended or not, of creating and maintaining buffer or resource procurement zones.

Warfare between elites as a means of achieving power and prestige and as a mechanism for establishing and enforcing tributary relationships, however, is well documented in the sixteenth-century Southeast. The members of the 1560 De Luna expedition, for example, assisted the leader of Coosa in the collection of tribute from a rival town called Napochies, whose elites had rebelled and refused to recognize the primacy of Coosa (DePratter 1983, 57–58, 173–74; Hudson 1988, 1990, 13, 104). This example, and others like it that De Soto encountered, such as the rivalry between Pacaha and Casqui in Arkansas or the double dealing of the chief of Talise who attempted to play his neighbors against one another (Vega in Shelby 1993, 325–26, 394–406), illustrate how cycling, or the replacement of one power center by another, could take place. If a polity became weakened, for whatever reason, something that may have been brought about through losses in warfare, or due to famine, disease, or emigration, it would no longer have the military capability to compel cooperation or submission of its neighbors, prompting challenges from them either for overall leadership or for autonomy. These challenges initially took the form of a refusal to submit tribute, and if the bid for autonomy was not recognized and accepted, a possible result was warfare, the replacement or reestablishment of paramount elites, and the shuffling of various centers in the dominance hierarchy.

Although providing rich detail on southeastern chiefdoms of the contact era, the ethnohistoric record does have its limits for the study of processes of political change, primarily in that the existing accounts are essentially synchronic portraits taken from brief and temporally widely spaced expeditions. Although our knowledge of several major sixteenth-century southeastern chiefdoms such as Coosa, Apalachee, or Cofitachequi is characterized by vivid detail, it is almost invariably based on accounts of visits that usually lasted no more than a few days or weeks, the interval the expeditions spent visiting or passing through. Many of these societies, furthermore, were never seen again or had changed almost beyond recognition

when these areas were revisited by subsequent European explorers years, decades or, in many parts of the region, more than a century later. Although the early accounts describe the foundations of chiefly authority and document individual episodes of political change, the causes and consequences of long-term processes of change are not well covered. For this reason understanding cycling requires the evaluation of both archaeological and ethnohistoric evidence.

Evidence from Archaeological Research

Instructive examples of cycling processes are evident in the archaeological record from the southeastern United States. Examining the number, size, and temporal separation of mound stages, for example, together with the number and kind of prestige goods in contemporaneous burials, has been used to explore the political fortunes of individual societies, and how and under what circumstances chiefly succession may have occurred (for example, Anderson 1994b; Blitz 1993a; Peebles 1986, 1987a, 1987b; Steponaitis 1991; Welch 1991). When the flow of prestige goods declines or is interrupted, as indicated by their incidence in burials, it may indicate that the position of the elite was growing precarious. The collapse of a number of southeastern chiefdoms, including Moundville and Spiro, in fact, has been attributed, in part, to interruptions in prestige-goods exchange networks (for example, Peebles 1987a, 30; Rogers, chapter 4 in this volume; but see Anderson 1994b, 312, chapter 8 in this volume, and the discussion below for evidence that collapse for such a reason may not have been either rapid or inevitable for at least some of the region's chiefdoms). If the construction of new mound stages reflects a successional event, such as the death or replacement of a chief, something supported by ethnohistoric accounts (DePratter 1983, 179; Hally 1993; Schnell, Knight, and Schnell 1981, 126–45; Waring 1968a, 58–62, 66), the numbers of successive stages in a mound (barring major interruptions) may indicate the number of chiefly leaders who occupied that center, and the size of each stage might indicate their relative power. Stage construction every twenty to thirty years is indicated at a number of sites in Georgia and the Carolinas, an interval that may indicate the tenure of local chiefs or paramounts (Anderson 1994b, 128; Hally 1993).

The polities centered at Cahokia, Moundville, and Coosa, perhaps

the best-documented paramount chiefdoms currently known from the Southeast, exhibit dramatic developmental histories useful for illustrating and examining the cycling process. Cahokia and Moundville had emerged, expanded, and then collapsed before European contact, whereas Coosa was at or near its height in the first half of the sixteenth century and was visited by Spanish expeditions. The American Bottom of the Central Mississippi Valley was occupied by the most complex chiefdom society to emerge during the Mississippian period in the Eastern Woodlands (Fowler 1975, 1978; Milner 1990, chapter 3 in this volume; Pauketat 1994). A series of multimound centers arose throughout this approximately 1,225-square-mile area after A.D. 800, the largest of which, centered on the site of Cahokia, included more than 100 mounds spread over an area close to 5 square miles in extent at its height in about A.D. 1200; one of the mounds was among the largest structures ever erected by human populations in the New World. By A.D. 1350, however, little more than a century after its peak, Cahokia and many of the other centers in the American Bottom had been abandoned, an organizational collapse that is itself as unprecedented in scale as the emergence of this society in the first place.

Over and above the long-term pattern of emergence, expansion, and decline, however, political power also shifted over the landscape over the course of the Mississippian in the American Bottom, illustrating the regional pattern of cycling in microcosm. The duration and intensity of occupation and the relative importance of the secondary centers was apparently shaped, to some extent, by Cahokia's interaction with societies across the larger region (Fowler 1978, 462; Milner 1990). During the Lohmann phase (ca. A.D. 1050–1100, using Hall's [1991] calibrated chronology), for example, when there is appreciable evidence for contact with chiefdoms to the south and southwest in the Lower Mississippi Valley and Caddoan areas, the Lunsford-Pulcher site at the south end of the American Bottom was a major center second only to Cahokia. During the subsequent Stirling and Moorehead phases from ca. A.D. 1100–1200 and 1200–1275, respectively, when contacts with areas to the north and northwest are evident, a major center existed at the Mitchell site at the northern end of the American Bottom, near the mouth of the Missouri River. Finally, as Cahokia declined, there is some evidence to

suggest that other centers were emerging elsewhere in the general upper Midwest and Central Mississippi Valley.

Like Cahokia, the Moundville chiefdom in the Black Warrior River Valley of western Alabama emerged, expanded, and declined over a period of several centuries (Knight 1994b; Peebles 1986, 1987a, 1987b; Steponaitis 1978, 1983a, 1991; Welch 1990, 1991, chapter 5 in this volume). Initially one of a series of simple chiefdoms, the Moundville site emerged as the center of a paramount chiefdom toward the end of the Moundville I phase (ca. A.D. 1050–1250). This polity expanded markedly in size and influence during the Moundville II phase (A.D. 1250–1400), when populations in scattered communities and subsidiary centers along a roughly 50-km section of the Black Warrior River were brought under the control of the paramount center. By the start of the Moundville III phase (A.D. 1400–1500) the Moundville chiefdom may have been one of the most powerful in the Southeast, although there is evidence that the population at the center itself was in decline. Shortly after the end of the Moundville III phase, however, the chiefdom had collapsed and the center itself had been abandoned, a pattern similar to that observed at Cahokia.

The actions of the Moundville paramountcy shaped the historical trajectories of chiefdoms throughout the surrounding region. The emergence of the paramount center appears to have been during a period of militaristic expansion. Societies in nearby drainages, notably along the Upper Black Warrior, the Central Cahaba, and the Central Tennessee disappeared during the Moundville II phase, something that suggests the deliberate elimination of potential rivals and the scattering or consolidation of their populations. Along the Tombigbee to the west, the disappearance of fortifications, the reduction or elimination of mound construction, and the impoverishment of local elites suggests the chiefdoms in this area were intentionally weakened and impoverished by the Moundville elites. Although there is appreciable evidence for the long distance exchange of prestige goods during the Moundville II phase, as evidenced from grave associations, little material is from the South Appalachian area (Welch 1986, 184–190), suggesting that the rivalry the Spanish observed in the early sixteenth century between the paramount elites of Coosa and Tastaluca in northwestern Georgia and central Alabama, respectively, may have had considerable time depth.

Following the disappearance of the Moundville chiefdom sometime around or shortly after A.D. 1500, the succeeding Alabama River phase (A.D. 1500–1700) occupations were characterized by small, egalitarian settlements evenly dispersed along the drainage. A marked decline in population skeletal health is indicated, something thought to have been caused by the collapse of the chiefly organization capable of buffering food shortages (Hill 1981; Powell 1988, 189–91). The collapse of the Moundville chiefdom has been attributed to a failure of the prestige-goods network, which undermined the ability of the elite to maintain their position (Peebles 1986, 30; 1987b, 14–15). The actual decline in the importation of prestige goods, however, appears to have begun about the time or soon after the chiefdom had consolidated its hold over the immediate region during the Moundville II phase (Steponaitis 1991, 208–12). That the chiefdom was able to continue for another two centuries suggests, however, that a decline in prestige goods in circulation cannot be invariably equated with a decline in organizational stability.

At the time of initial European contact the paramount chiefdom of Coosa was apparently one of the largest and most complex Mississippian societies in the southeastern United States (Hally and Langford 1988; Hally, Smith, and Langford 1990; Hudson et al. 1985, 1987). Visited or contacted by the three major Spanish expeditions into the interior that took place during the middle third of the sixteenth century, led by De Soto, De Luna, and Pardo, the province of Coosa at its height is inferred to have consisted of a series of linked polities stretching for about 400 km along the Coosa and Tennessee River Valleys. When De Soto came through in 1540 the chiefdom may have been at its peak, although it appears to have declined markedly following contact, as indicated by the accounts of the 1559–1561 De Luna expedition (including the discussion of the raid on the Napochies mentioned above), which suggested it was much reduced in size and importance. Its condition during the 1566–1567 Pardo expeditions, which reached only the eastern margin of the chiefdom, is unclear, although there is a suggestion that it had regained some or all of its former dominance (Hudson 1990, 103–104).

Archaeological research has identified a series of seven site clusters that appear to represent the constituent subchiefdoms of the polity,

although little evidence has been found to indicate they were part of the complex chiefdom described by the Spanish (Hally, Smith, and Langford 1990). The pottery within each site cluster can be distinguished at the phase level, and the inferred boundaries of the province span two major subregional ceramic traditions, Dallas and Lamar (Hally, Smith, and Langford 1990, 133). Although three mounds were present and in use at the presumed central town of the Coosa province, at the Little Egypt site, these mounds were much smaller than those present at sites like Citico, Etowah, and Toqua, although these had admittedly been built much earlier and were no longer in use when Coosa was at its height. The evidence suggests that political ties rather than shared material culture or monumental construction were what bound together the constituent polities of complex and paramount chiefdoms in the Southeast, at least in the later prehistoric and early contact era. The only distinctive artifact that may be associated with Coosa is the Citico-style gorget, found almost exclusively with adult female and adolescent interments in a distribution roughly coextensive in time and space with the inferred boundaries of the province; this distribution may indicate the geographic extent of marital alliance networks binding the paramount chiefdom together (Hally, Smith, and Langford 1990; Hudson et al. 1985, 732–33).

The work with Coosa, although highlighting the fact that complex and paramount chiefdoms may appear to be almost invisible archaeologically, offers suggestions about how these polities can be recognized archaeologically. Comprehensive regional survey may permit the resolution of site clusters representing individual chiefdoms, for example, and settlement analyses within and between these clusters may permit the identification of primary and secondary centers and subsidiary communities. In addition, the recognition of distinctive categories of artifacts shared by large numbers of sites may indicate to the existence and extent of political ties.

Conclusions

We have seen that the Southeast is an excellent area for the study of political change, and particularly for exploring the reasons behind the emergence and collapse of complex and paramount chiefdoms

against a regional landscape of simple chiefdoms. This process, which I have called cycling, is an inherent aspect of chiefdoms and helps us understand why these societies were able to exist for long periods in parts of the world. As such, the existence of cycling serves to remind us that there are alternatives to the assumed pattern of unilineal evolution from bands to states that has achieved near teleological significance in some cultural evolutionary formulations. This is not to say that cycling invariably resulted in evolutionary stasis, however. Far from it. Over time, in fact, the process could have resulted in profound evolutionary transformations. Where chiefly succession was subject to repeated and bloody challenge, for example, this might lead to the emergence of progressively stronger institutions based on secular power. This may be indicated in the Mississippian world, where extensive mound building and highly developed mortuary ceremonialism and iconography, together with evidence for widespread interaction and exchange of prestige goods, strategies designed to reinforce the sacred position of the elite, peaks in the thirteenth century and declines rapidly thereafter, never again assuming the same level of prominence (Muller 1989). Ideological transformations, that is, changes in world view and perceived relationships between groups of people, such as elites and commoners, may likewise become altered to the point where a reversion to earlier positions would have been difficult (1994a, 21–22). Only the massively disruptive effects of contact, for example, brought about an apparent widespread reversion to earlier and more egalitarian forms of social organization. A primary lesson from the study of cycling, it should be clear, is that human history is shaped, in part, by processes that operate at very long scales, and that archaeology can help us resolve and understand them.

REFERENCES

ADAMS, ROBERT MCC.

1949 Archaeological Investigations in Jefferson County, Missouri. *Missouri Archaeologist* 11:1–72.

1977 World Picture, Anthropological Frame. *American Anthropologist* 79:265–79.

AHLER, STEVEN R., AND PETER J. DEPUYDT

1987 *A Report on the 1931 Powell Mound Excavations, Madison County, Illinois.* Reports of Investigations 43. Springfield: Illinois State Museum.

ANDERSON, DAVID G.

1989 The Mississippian in South Carolina. In *Studies in South Carolina Archaeology: Papers in Honor of Dr. Robert L. Stephenson,* edited by Albert C. Goodyear III and Glen T. Hanson, 101–32. Columbia: South Carolina Institute of Archaeology and Anthropology.

1990a Political Evolution in Chiefdom Societies: Cycling in the Late Prehistoric Southeastern United States. Ph.D. diss., University of Michigan.

1990b Stability and Change in Chiefdom Level Societies: An Examination of Mississippian Political Evolution on the South Atlantic Slope. In *Lamar Archaeology: Mississippian Chiefdoms in the Deep South,* edited by M. Williams and G. Shapiro, 187–213. Tuscaloosa: University of Alabama Press.

1990c The Mississippian Occupation and Abandonment of the Savannah River Valley. *Florida Anthropologist* 43:13–35.

1991 Examining Prehistoric Settlement Distribution in Eastern North America. *Archaeology of Eastern North America* 19:1–22.

1994a Factional Competition and the Political Evolution of Mississippian Chiefdoms in the Southeastern United States. In *Factional Competition and Political Development in the New World,* edited by Elizabeth M. Brumfiel and John W. Fox, 61–76. Cambridge: Cambridge University Press.

1994b *The Savannah River Chiefdoms: Political Change in the Late Prehistoric Southeast.* Tuscaloosa: University of Alabama Press.

ANDERSON, DAVID G., AND J. W. JOSEPH

1988 *Prehistory and History along the Upper Savannah River: Technical Synthesis of Cultural Resource Investigations, Richard B.*

Russell Multiple Resource Area. Russell Papers. Atlanta: National Park Service.

ANDERSON, DAVID G., AND JOSEPH SCHULDENREIN
1985 *Prehistoric Human Ecology along the Upper Savannah River: Excavations at the Rucker's Bottom, Abbeville, and Bullard Sites.* Russell Papers. Atlanta: National Park Service.

ANDERSON, DAVID G., CHRISTOPHER AMER, AND RITA F. ELLIOTT
1994 *Archaeologial Survey along the Upper Savannah River, Including Underwater Investigations at the Rembert Mound Group.* Technical Report 1. Atlanta: National Park Service Interagency Archeological Services Division.

ANDERSON, DAVID G., DAVID J. HALLY, AND JAMES L. RUDOLPH
1986 The Mississippian Occupation of the Savannah River Valley. *Southeastern Archaeology* 5:32–51.

ANDERSON, DAVID G., DAVID W. STAHLE, AND MALCOLM K. CLEAVELAND
1995 Paleoclimate and the Potential Food Reserves of Mississippian Societies in the Southeastern United States. *American Antiquity* 60:258–86.

ANDERSON, DUANE C.
1981 *Mill Creek Ceramics: The Complex from the Brewster Site.* Report 14. Iowa City: Office of the State Archaeologist, University of Iowa.
1987 Toward a Processual Understanding of the Initial Variant of the Middle Missouri Tradition: The Case of the Mill Creek Culture of Iowa. *American Antiquity* 52:522–37.

BAERREIS, DAVID A., AND REID A. BRYSON
1965 Historical Climatology and the Southern Plains: A Preliminary Statement. *Oklahoma Anthropological Society Bulletin* 13: 69–75.

BANDELIER, FANNY, ED. AND TRANS.
1964 *The Journey of Alvar Núñez Cabeza de Vaca.* Chicago: Rio Grande Press.

BAREIS, CHARLES J.
1976 *The Knoebel Site, St. Clair County, Illinois.* Circular 1. Urbana: Illinois Archaeological Survey.

BARRETT, SAMUEL A.
1933 *Ancient Aztalan.* Bulletin of the Public Museum of the City of Milwaukee 13. Milwaukee: Public Museum of the City of Milwaukee.

BARRY, J. M.
1980 *Natural Vegetation of South Carolina.* Columbia: University of South Carolina Press.

BARTH, FREDRIK
1987 *Cosmologies in the Making: A Generative Approach to Cultural Variation in Inner New Guinea.* Cambridge: Cambridge University Press.

BELL, ROBERT E.
1972 *The Harlan Site, CK-6, a Prehistoric Mound Center in Cherokee County, Eastern Oklahoma.* Memoir 2. Norman: Oklahoma Anthropological Society.
1984a *Prehistory of Oklahoma.* New York: Academic Press.
1984b Arkansas Valley Caddoan: The Harlan Phase. In *Prehistory of Oklahoma,* edited by Robert E. Bell, 221–40. New York: Academic Press.

BENCHLEY, ELIZABETH D.
1976 *An Overview of the Prehistoric Resources of the Metropolitan St. Louis Area.* Washington, D.C.: National Park Service.

BENDER, BARBARA
1978 Gatherer-Hunter to Farmer: A Social Perspective. *World Archaeology* 10:204–22.
1985 Emergent Tribal Formulations in the American Midcontinent. *American Antiquity* 50:52–62.
1989 The Roots of Inequality. In *Domination and Resistance,* edited by D. Miller, M. Rowlands, and C. Tilley, 83–93. London: Unwin Hyman.

BENNETT, JOHN W.
1945 *Archaeological Explorations in Jo Daviess County, Illinois.* Chicago: University of Chicago Press.

BERTHOUD, G., AND F. SAVELLI
1979 Our Obsolete Production Mentality: The Heresy of the Communal Formation. *Current Anthropology* 20:745–60.

BETZIG, LAURA L.
1982 Despotism and Differential Reproduction: A Cross Cultural Correlation of Conflict Asymmetry, Hierarchy, and Degree of Polygyny. *Ethology and Sociobiology* 3:209–21.
1986 *Despotism and Differential Reproduction: A Darwinian View of History.* Hawthorne, N.Y.: Aldine Press.

BETZIG, LAURA L., MONIQUE BORGERHOFF MULDER, AND PAUL W. TURKE, EDS.
1988 *Human Reproductive Behavior: A Darwinian Perspective.* Cambridge: Cambridge University Press.

BIERCE-GEDRIS, KATHERINE
1981 Apalachee Hill: The Investigation of an Indian Site of the Spanish

Mission Period in Northwest Florida. Master's thesis, Department of Anthropology, Florida State University, Tallahassee.

BLAKE, LEONARD W.
1949 The Missouri River Bluffs at Caulk's Creek in St. Louis County. *Missouri Archaeologist* 11:18–28.

BLAKELY, ROBERT, D. MATHEWS, JAMES L. RUDOLPH, R. TYZZER, AND PAUL WEBB
1985 Burial Descriptions. In *Archaeological Investigation of the Beaverdam Creek Site (9EB85), Elbert County, Georgia,* by J. Rudolph and D. Hally, 317–45. Russell Papers. Atlanta: National Park Service.

BLANTON, RICHARD, STEPHEN KOWALEWSKI, GARY FEINMAN, AND J. APPEL
1981 *Ancient Mesoamerica: A Comparison of Change in Three Regions.* New York: Cambridge University Press.

BLEED, PETER
1970 Notes on Aztalan Shell-tempered Pottery. *Wisconsin Archeologist* 51:1–20.

BLITZ, JOHN
1993a *Ancient Chiefdoms of the Tombigbee.* Tuscaloosa: University of Alabama Press.
1993b Big Pots for Big Shots: Feasting and Storage in a Mississippian Community. *American Antiquity* 58:80–96.

BOGAN, ARTHUR E.
1980 A Comparison of Late Prehistoric Dallas and Overhill Cherokee Subsistence Strategies in the Little Tennessee River Valley. Ph.D. diss., University of Tennessee. Ann Arbor, Mich.: University Microfilms.

BORCHERT, J. R.
1950 The Climate of the Central North American Grassland. *Annals of the Association of American Geographers* 40:1–39.

BOYD, C. CLIFFORD, JR., AND GERALD F. SCHROEDL
1987 In Search of Coosa. *American Antiquity* 52:840–44.

BOYD, MARK F.
1939 Mission Sites in Florida: An Attempt to Approximately Identify the Sites of Spanish Mission Settlements of the Seventeenth Century. *Florida Historical Quarterly* 27:254–80.
1951 Fort San Luis: Documents Describing the Tragic End of the Mission Era. In *Here They Once Stood: The Tragic End of the Apalachee Missions,* by Mark F. Boyd, Hale G. Smith, and John W. Griffin, 1–107. Gainesville: University of Florida Press.

BOZEMAN, TANDY K.
1982 Moundville Phase Communities in the Black Warrior River Valley, Alabama. Ph.D. diss., University of California, Santa Barbara. Ann Arbor, Mich.: University Microfilms.

BRAIN, JEFFREY P.
1978 Late Prehistoric Settlement Patterning in the Yazoo Bluffs Region of the Lower Mississippi Valley. In *Mississippian Settlement Patterns,* edited by Bruce D. Smith, 331–68. New York: Academic Press.
1989 *Winterville: Late Prehistoric Culture Contact in the Lower Mississippi Valley.* Archaeological Report 23. Jackson: Mississippi Department of Archives and History.

BRAUN, DAVID P.
1990 Selection and Evolution in Nonhierarchical Organization. In *The Evolution of Political Systems: Sociopolitics in Small-scale Sedentary Societies,* edited by Steadman Upham, 62–86. School of American Research Advanced Seminar Series. Cambridge: Cambridge University Press.
1991a Why Decorate a Pot? Midwestern Household Pottery, 200 B.C.–A.D. 600. *Journal of Anthropological Archaeology* 10:360–97.
1991b Are There Cross-cultural Regularities in Tribal Social Practices? In *Between Bands and States,* edited by Susan A. Gregg, 423–44. Occasional Paper 9. Carbondale: Center for Archaeological Investigations, Southern Illinois University.

BRAUN, DAVID P., AND STEPHEN PLOG
1982 Evolution of "Tribal" Social Networks: Theory and Prehistoric North American Evidence. *American Antiquity* 47:504–25.

BROOKS, MARK J., AND GLEN T. HANSON, ASSEMBLERS
1987 *Late Archaic-Late Woodland Adaptive Stability and Change in the Steel Creek Watershed, South Carolina.* Savannah River Archaeological Papers 2. Columbia: South Carolina Institute of Archaeology and Anthropology.

BROOKS, MARK J., LARRY LEPIONKA, TED A. RATHBUN, AND JOHN GOLDSBOROUGH
1982 *Preliminary Archaeological Investigations at the Callawassie Island Burial Mound(38BU19), Beaufort County, South Carolina.* Research Manuscript Series 185. Columbia: South Carolina Institute of Archeology and Anthropology.

BROOKS, MARK J., KENNETH E. SASSAMAN, AND GLEN T. HANSON
1990 Environmental Background and Models. In *Native American Pre-*

history of the Savannah River Site: A Synthesis of Archaeological Investigations on the Savannah River Site, Aiken and Barnwell Counties, South Carolina, by Kenneth E. Sassaman, Mark J. Brooks, Glen T. Hanson, and David G. Anderson, 19–66. Savannah River Archaeological Research Papers 1. Columbia: South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

BROWN, IAN W.

1982 *The Southeastern Check-Stamped Pottery Tradition: A View from Louisiana.* MCJA Special Paper 4. Kent, Ohio: Kent State University Press.

BROWN, JAMES A.

1966 *Spiro Studies Volume 1: Description of the Mound Group.* Norman: University of Oklahoma Research Institute.

1971 The Dimensions of Status in the Burials at Spiro. In *Approaches to the Social Dimensions of Mortuary Practices,* edited by James A. Brown, 92–112. Memoir 25. Washington, D.C.: Society for American Archaeology.

1973 Spiro Art and Its Mortuary Contexts. In *Death and the Afterlife in Precolumbian America,* edited by E. P. Benson, 1–32. Washington, D.C.: Dumbarton Oaks Research Library and Collections.

1976 The Southern Cult Reconsidered. *Midcontinental Journal of Anthropology* 1:115–35.

1983 Spiro Exchange Connections Revealed by Sources of Imported Raw Materials. In *Southeastern Natives and Their Pasts: Papers Honoring Dr. Robert E. Bell,* edited by Don G. Wyckoff and Jack L. Hofman, 129–62. Studies in Oklahoma's Past 11. Norman: Oklahoma Archeological Survey.

BROWN, JAMES A., ROBERT E. BELL, AND DON G. WYCKOFF

1978 Caddoan Settlement Patterns in the Arkansas River Drainage. In *Mississippian Settlement Patterns,* edited by Bruce D. Smith, 169–200. New York: Academic Press.

BRUMFIEL, ELIZABETH M., AND JOHN W. FOX, EDS.

1994 *Factional Competition in the New World.* Cambridge: Cambridge University Press.

BRYNE, STEPHEN C.

1986 *Apalachee Settlement Patterns.* Master's thesis, Department of Anthropology, Florida State University, Tallahassee.

BURLING, ROBBINS

1974 *The Passage of Power.* New York: Academic Press.

BURNS, BARNEY T.

1983 Simulated Anasazi Storage Behavior Using Crop Yields Reconstructed from Tree Rings: A.D. 652–1968. Ph.D. diss., University of Arizona. Ann Arbor, Mich.: University Microfilms.

BUSHNELL, AMY T.

1978 "That Demonic Game": The Campaign to Stop Indian Pelota Playing in Spanish Florida, 1675–1684. *Americas* 35:1–19.

1979 Patricio de Hinachuba: Defender of the Word of God, the Crown of the King, and the Little Children of Ivitachuco. *American Indian Culture and Research Journal* 3 (3): 1–21.

BUSHNELL, DAVID I., JR.

1904 *The Cahokia and Surrounding Mound Groups.* Papers of the Peabody Museum of American Archaeology and Ethnology 3 (1). Cambridge: Harvard University Press.

CALDWELL, JOSEPH R.

1952 The Archeology of Eastern Georgia and South Carolina. In *Archeology of Eastern United States,* edited by James B. Griffin, 312–21. Chicago: University of Chicago Press.

1953 The Rembert Mounds, Elbert County, Georgia. *Bureau of American Ethnology Bulletin* 154:303–20.

1956 Progress Report on Excavation at Tugalo (9St1—Georgia). MS on file, Department of Anthropology and Linguistics, University of Georgia, Athens.

1957 Survey and Excavations in the Allatoona Reservoir, Northern Georgia. MS on file, Department of Anthropology and Linguisitics, University of Georgia, Athens.

CALDWELL, JOSEPH R., AND CATHERINE MCCANN

1941 *Irene Mound Site, Chatham County, Georgia.* Athens: University of Georgia Press.

CAMPBELL, JANICE L., AND CAROL S. WEED

1984 *The Beaverdam Group Archaeological Investigations at 9EB92, 9EB207, 9EB208, and 9EB219 Richard B. Russell Multiple Resource Area, Elbert County, Georgia.* Russell Papers. Atlanta: National Park Service.

CARNEIRO, ROBERT L.

1970 A Theory of the Origin of the State. *Science* 169:733–38.

1981 The Chiefdom: Precursor of the State. In *The Transition to Statehood in the New World,* edited by Grant D. Jones and Robert R. Krautz, 37–75. Cambridge: Cambridge University Press.

CASSIDY, CLARE M.

1972 Comparison of Nutrition and Health in Preagricultural and Ag-

ricultural Amerindian Skeletal Populations. Ph.D. diss., University of Wisconsin. Ann Arbor, Mich.: University Microfilms.

CHAGNON, NAPOLEON A., AND WILLIAM IRONS, EDS.
1979 *Evolutionary Biology and Human Social Behavior: An Anthropological Perspective.* North Scituate, Mass.: Duxbury Press.

CHAPMAN, CARL H.
1980 *The Archaeology of Missouri, II.* Columbia: University of Missouri Press.

CHARLES, TOMMY
1981 Dwindling Resources: An Overture to the Future of South Carolina's Archaeological Resources. *Notebook* 13:1–85.
1983 Thoughts and Records from the Survey of Private Collections of Prehistoric Artifacts Throughout South Carolina: A Second Report. *Notebook* 15:1–37.
1986 The Fifth Phase of the Collectors Survey. *Notebook* 18:1–27.

CHMURNEY, WILLIAM W.
1973 The Ecology of the Middle Mississippian Occupation of the American Bottom. Ph.D. diss., University of Illinois. Ann Arbor, Mich.: University Microfilms.

CLAFLIN, JOHN
1991 The Shire Site: Mississippian Outpost in the Central Illinois Prairie. In *New Perspectives on Cahokia: Views from the Periphery,* edited by James B. Stoltman, 155–76. Madison, Wis.: Prehistory Press.

CLARK, JOHN E.
1994 The Development of Early Formative Rank Societies in the Soconusco, Chiapas, Mexico. Ph.D. diss., Department of Anthropology, University of Michigan, Ann Arbor.

CLARK, JOHN E., AND MICHAEL BLAKE
1994 The Power of Prestige: Competitive Generosity and the Emergence of Rank Societies in Lowland Mesoamerica. In *Factional Competition in the New World,* edited by Elizabeth M. Brumfiel and John W. Fox, 17–30. Cambridge: Cambridge University Press.

COBB, CHARLES R.
1988 Mill Creek Chert Biface Production: Mississippian Political Economy in Illinois. Ph.D. diss., Southern Illinois University. Ann Arbor: University Microfilms.
1989 An Apprasial of the Role of Mill Creek Chert Hoes in Mississippian Exchange Systems. *Southeastern Archaeology* 8:79–92.
1991 Social Reproduction and the *Longue Durée* in the Prehistory of the Midcontinental United States. In *Processual and Postprocessual Archaeologies: Multiple Ways of Knowing the Past,* edited by Robert W. Preucel, 168–82. Occasional Paper 10. Carbondale: Center for Archaeological Investigations, Southern Illinois University.

COHEN, MARK N.
1977 *The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture.* New Haven, Conn.: Yale University Press.

COLE, FAY-COOPER
1951 *Kincaid: A Prehistoric Illinois Metropolis.* Chicago: University of Chicago Press.

COLLINS, JAMES M.
1990 *The Archaeology of the Cahokia Mounds ICT-II: Site Structure.* Illinois Cultural Resources Study 10. Springfield: Illinois Historic Preservation Agency.

CONNER, MICHAEL D.
1985 Site Structure and Function. In *The Hill Creek Homestead and the Late Mississippian Settlement in the Lower Illinois Valley,* edited by Michael D. Conner, 193–220. Research Series 1. Kampsville, Ill.: Center for American Archeology.

CONRAD, LAWRENCE A.
1991 The Middle Mississippian Cultures of the Central Illinois Valley. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest,* edited by Thomas E. Emerson and R. Barry Lewis, 119–56. Urbana: University of Illinois Press.
1993 Two Elaborate Middle Mississippian Graves from the Kingston Lake Site, Peoria County, Illinois. *Illinois Archaeology* 5:297–314.

CONRAD, LAWRENCE A., TIMOTHY W. GOOD, AND SUSAN JELLY
1981 Analysis of Cordmarked Ceramics from Settlement C. In *The Orendorf Site: Preliminary Working Papers 1981.* 3 vols., compiled by Duane Esarey and Lawrence A. Conrad, 117–59. Macomb: Archaeological Research Laboratory, Western Illinois University.

COOPER, ALLEN H.
1986 *A Descriptive Taxonomy of Leon-Jefferson Ceramics.* Master's thesis, Department of Anthropology, Florida State University, Tallahassee.

CORDELL, LINDA S., AND FRED PLOG
1979 Escaping the Confines of Normative Thought: A Reevaluation of Puebloan Prehistory. *American Antiquity* 44:405–29.

CORDY, ROSS H.
1981 *A Study of Prehistoric Social Change: The Development of Com-*

plex Societies in the Hawaiian Islands. New York: Academic Press.

COVINGTON, JAMES
1972 The Apalachee Indians, 1704–1763. *Florida Historical Quarterly* 50:366–84.

CROOK, MORGAN R., JR.
1978 Mississippian Period Community Organizations on the Georgia Coast. Ph.D. diss., University of Florida. Ann Arbor, Mich.: University Microfilms.

CRUMLEY, CAROLE J., AND WILLIAM H. MARQUARDT
1987 Regional Dynamics in Burgundy. In *Regional Dynamics: Burgundian Landscapes in Historical Perspective,* edited by Carole J. Crumley and William H. Marquardt, 609–23. New York: Academic Press.

DALTON, GEORGE
1977 Aboriginal Economies in Stateless Societies. In *Exchange Systems in Prehistory,* edited by Timothy K. Earle and Jonathon E. Ericson, 191–212. New York: Academic Press.

D'ALTROY, TERRENCE, AND TIMOTHY EARLE
1985 Staple Finance, Wealth Finance, and Storage in the Inca Political Economy. *Current Anthropology* 26:187–206.

DEBAILLOU, CLEMENS
1965 A Test Excavation of the Hollywood Mound (9RI1), Georgia. *Southern Indian Studies* 17:3–11.

DEBOER, WARREN R.
1988 Subterranean Storage and the Organization of Surplus: The View from Eastern North America. *Southeastern Archaeology* 7:1–20.

DEJARNETTE, DAVID L., ED.
1975 *Archaeological Salvage in the Walter F. George Basin of the Lower Chattahoochee River in Alabama.* Tuscaloosa: University of Alabama Press.

DEJARNETTE, DAVID L., AND CHRISTOPHER S. PEEBLES
1970 The Development of Alabama Archaeology: The Snow's Bend Site. *Journal of Alabama Archaeology* 16:77–119.

DEPRATTER, CHESTER B.
1976 The 1974–75 Archaeological Survey in the Wallace Reservoir, Greene, Hancock, Morgan, and Putnam Counties, Georgia. MS on file, Department of Anthropology, University of Georgia, Athens.
1983 Late Prehistoric and Early Historic Chiefdoms in the Southeastern United States. Ph.D. diss., University of Georgia. Ann Arbor, Mich.: University Microfilms.

1989 The Archaeology of Cofitachequi. In *Studies in South Carolina Archaeology: Papers in Honor of Robert L. Stephenson,* edited by Albert C. Goodyear III and Glen T. Hanson, 133–56. Anthropological Studies. Columbia: South Carolina Institute of Archaeology and Anthropology.

DEPRATTER, CHESTER B., CHARLES M. HUDSON, AND MARVIN T. SMITH
1983 The Route of Juan Pardo's Explorations in the Interior Southeast, 1566–1568. *Florida Historical Quarterly* 62:125–58.

DE ROCHEFORT, CHARLES
1666 *The History of the Caribby-Islands.* Translated by John Davies. London: Thomas Dring and John Starkey.

DEUEL, THORNE
1937 The Application of a Classificatory Method to Mississippi Valley Archaeology. In *Rediscovering Illinois,* by Fay-Cooper Cole and Thorne Deuel, 207–19. Chicago: University of Chicago Press.

DICKENS, ROY S.
1976 *Cherokee Prehistory.* Knoxville: University of Tennessee Press.

DINCAUZE, DENA F., AND ROBERT J. HASENSTAB
1989 Explaining the Iroquois: Tribalization on a Prehistoric Periphery. In *Centre and Periphery: Comparative Studies in Archaeology,* edited by T. Champion, 67–87. London: Unwin Hyman.

DOBYNS, HENRY F.
1983 *Their Number Become Thinned: Native American Population Dynamics in Eastern North America.* Knoxville: University of Tennessee Press.

DOROTHY, LAWRENCE G.
1980 The Ceramics of the Sand Point Site (20BG14) Baraga County, Michigan: A Preliminary Description. *Michigan Archaeologist* 26:39–86.

DOUGLAS, MARY, AND BARON ISHERWOOD
1979 *The World of Goods: Towards an Anthropology of Consumption.* New York: W. W. Norton.

DUNCAN, GWYNETH A.
1985 *A Morphological Analysis of the Tugalo Phase Vessel Assemblage.* Master's thesis, Department of Anthropology, University of Georgia.

DYE, DAVID H.
1990 Warfare in the Sixteenth Century Southeast: The De Soto Expedition in the Interior. In *Columbian Consequences II: Archaeological and Historical Perspectives on the Spanish Borderlands East,* edited by David H. Thomas, 211–22. Washington, D.C.: Smithsonian Institution Press.

EARLE, TIMOTHY K.
1977 A Reappraisal of Redistribution: Complex Hawaiian Chiefdoms. In *Exchange Systems in Prehistory*, edited by Timothy K. Earle and Jonathon E. Ericson, 213–29. New York: Academic Press.
1978 *Economic and Social Organization of a Complex Chiefdom: The Halelea District, Kaua'i, Hawaii.* Anthropological Papers 63. Ann Arbor: University of Michigan Museum of Anthropology.
1987 Chiefdoms in Archaeological and Ethnohistorical Perspective. *Annual Review of Anthropology* 16:279–308.
1989 The Evolution of Chiefdoms. *Current Anthropology* 30:84–88.
1991 The Evolution of Chiefdoms. In *Chiefdoms: Power, Economy, and Ideology*, edited by Timothy K. Earle, 1–15. School of American Research Advanced Seminar Series. New York: Cambridge University Press.

EMERSON, THOMAS E.
1991 Some Perspectives on Cahokia and the Northern Mississippian Expansion. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest*, edited by Thomas E. Emerson and R. Barry Lewis, 221–36. Urbana: University of Illinois Press.

EMERSON, THOMAS E., AND DOUGLAS K. JACKSON
1984 *The BBB Motor Site.* Urbana: University of Illinois Press.
1987a Emergent Mississippian and Early Mississippian Homesteads at the Marcus Site (11-S-631). In *The Radic Site and the Marcus Site*, 305–91. Urbana: University of Illinois Press.
1987b The Edelhardt and Lindeman Phases: Setting the Stage for the Final Transition to Mississippian in the American Bottom. In *The Emergent Mississippian: Proceedings of the Sixth Mid-South Archaeological Conference, June 6–9, 1985*, edited by Richard A. Marshall, 172–93. Occasional Papers 87–01. Mississippi State: Cobb Institute of Archaeology, Mississippi State University.

EMERSON, THOMAS E., AND GEORGE R. MILNER
1981 The Mississippian Occupation of the American Bottom: The Communities. Paper presented at the 26th annual meeting of the Midwest Archaeological Conference, Madison, Wisconsin.

EMERSON, THOMAS E., GEORGE R. MILNER, AND DOUGLAS K. JACKSON
1983 *The Florence Street Site.* Urbana: University of Illinois Press.

ESAREY, DUANE, WITH TIMOTHY W. GOOD
1981 *Final Report on FAI-270 and Illinois Route 460 Related Excavations at the Lohmann Site, 11–S–49, St. Clair County, Illinois.* FAI-270 Archaeological Mitigation Project Report 39. Macomb: Department of Sociology and Anthropology, Western Illinois University.

ESAREY, DUANE, AND TIMOTHY R. PAUKETAT
1992 *The Lohmann Site: An Early Mississippian Center in the American Bottom.* Urbana: University of Illinois Press.

EWEN, CHARLES R.
1988 *The Discovery of De Soto's First Winter Encampment in Florida.* De Soto Working Paper 7. Tuscaloosa: Alabama De Soto Commission.
1989a Anhaica: Discovery of Hernando de Soto's 1539–1540 Winter Camp. In *First Encounters: Spanish Explorations in the Caribbean and the United States, 1492–1570*, edited by Jerald Milanich and Susan Milbrath, 110–18. Gainesville: University Presses of Florida.
1989b The DeSoto Apalachee Project: The Martin Site and Beyond. *Florida Anthropologist* 42:361–68.
1990 Soldier of Fortune: Hernando de Soto in the Territory of the Apalachee, 1539–1540. In *Columbian Consequences II: Archaeological and Historical Perspectives on the Spanish Borderlands East*, edited by David H. Thomas, 83–91. Washington, D.C.: Smithsonian Institution Press.

FAIRBANKS, CHARLES H.
1950 A Preliminary Segregation of Etowah, Savannah, and Lamar. *American Antiquity* 16:142–51.
1956 *Archaeology of the Funeral Mound, Ocmulgee National Monument, Georgia.* Archaeological Research Series 3. Washington, D.C.: National Park Service.

FARNSWORTH, KENNETH B., THOMAS E. EMERSON, AND REBECCA M. GLENN
1991 Patterns of Late Woodland/Mississippian Interaction in the Lower Illinois Valley Drainage: A View from Starr Village. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest*, edited by Thomas E. Emerson and R. Barry Lewis, 83–118. Urbana: University of Illinois Press.

FEINMAN, GARY
1991 Demography, Surplus, and Inequality: Early Political Formations in Highland Mesoamerica. In *Chiefdoms: Power, Economy, and Ideology*, edited by Timothy Earle, 229–62. Cambridge: Cambridge University Press.

FEINMAN, GARY, AND JILL NEITZEL
1984 Many Types: An Overview of Sedentary Prestate Societies in the

Americas. In *Advances in Archaeological Method and Theory* 7, edited by M. Schiffer, 39–102. New York: Academic Press.

FERGUSON, JACQUELINE A.

1990 *Pottery Classification, Site Patterns, and Mississippian Interaction at the Common Field Site (23SG100), Eastern Missouri.* Master's thesis, Department of Anthropology, University of Missouri, Columbia.

FINNEY, FRED A.

1985 The Carbon Dioxide Site. In *The Carbon Dioxide and Robert Schneider Sites,* 3–167. Urbana: University of Illinois Press.

FINNEY, FRED A., AND JAMES B. STOLTMAN

1991 The Fred Edwards Site: A Case of Stirling Phase Culture Contact in Southwestern Wisconsin. In *New Perspectives on Cahokia: Views from the Periphery,* edited by James B. Stoltman, 229–52. Madison, Wis.: Prehistory Press.

FISH, SUZANNE K.

1985 Palynology. In *Archaeological Investigations at the Beaverdam Creek Site (9EB85), Elbert County, Georgia,* by James L. Rudolph and David J. Hally, 411–16. Russell Papers. Atlanta: National Park Service.

FISH, SUZANNE K., AND RICHARD W. JEFFERIES

1983 The Site Plan at Cold Springs, 9Ge10. *Early Georgia* 11:61–73.

FLANNERY, KENT V.

1972 The Cultural Evolution of Civilizations. *Annual Review of Ecology and Systemics* 3:399–426.

FORD, JAMES A.

1952 *Measurements of Some Prehistoric Design Developments in the Southeastern States.* Anthropological Papers of the American Museum of Natural History 44 (3). New York: American Museum of Natural History.

FORD, RICHARD I.

1977 Evolutionary Ecology and the Evolution of Human Ecosystems: A Case Study from the Midwestern U.S.A. In *Explanation of Prehistoric Change,* edited by James N. Hill, 153–84. Albuquerque: University of New Mexico Press.

1980 The Color of Survival. In *Discovery, School of American Research,* 17–29. Santa Fe, N.M.: School of American Research.

FORNANDER, ABRAHAM

1880 *An Account of the Polynesian Race,* vol. 2. London: Tribner.

FORTIER, ANDREW C.

1985 The Robert Schneider Site. In *The Carbon Dioxide and Robert Schneider Sites,* 171–313. Urbana: University of Illinois Press.

FORTIER, ANDREW C., THOMAS O. MAHER, AND JOYCE A. WILLIAMS

1991 *The Sponemann Site: The Formative Emergent Mississippian Sponemann Phase Occupations.* Urbana: University of Illinois Press.

FOWLER, MELVIN L.

1974 *Cahokia: Ancient Capital of the Midwest.* Addison-Wesley Module in Anthropology 48. Reading, Mass.: Addison-Wesley.

1975 A Pre-Columbian Urban Center on the Mississippi. *Scientific American* 233:92–101.

1978 Cahokia and the American Bottom: Settlement Archaeology. In *Mississippian Settlement Patterns,* edited by Bruce D. Smith, 455–78. New York: Academic Press.

1989 *The Cahokia Atlas: A Historical Atlas of Cahokia Archaeology.* Studies in Illinois Archaeology 6. Springfield: Illinois Historic Preservation Agency.

FOWLER, MELVIN L., AND ROBERT L. HALL

1972 *Archaeological Phases at Cahokia.* Papers in Anthropology 1. Springfield: Illinois State Museum.

1978 Late Prehistory of the Illinois Area. In *Handbook of North American Indians: Northeast,* vol. 15, edited by Bruce G. Trigger, 560–68. Washington, D.C.: Smithsonian Institution Press.

FRANKENSTEIN, SUSAN M., AND MICHAEL J. ROWLANDS

1978 The Internal Structure and Regional Context of Early Iron Age Society in Southwestern Germany. *Bulletin of the Institute of Archaeology* 15:73–121.

FREEMAN, JOAN E.

1986 Aztalan: A Middle Mississippian Village. *Wisconsin Archaeologist* 67:339–64.

FREER, JENNIFER A.

1989 *Archaeological Settlement Patterns in Oglethorpe County, Georgia.* Master's thesis, Department of Anthropology, University of Georgia, Athens.

FRIED, MORTON H.

1967 *The Evolution of Political Society.* New York: Random House.

FRIEDMAN, JONATHAN, AND MICHAEL J. ROWLANDS

1977 Notes Towards an Epigenetic Model of the Evolution of Civilization. In *The Evolution of Social Systems,* edited by Jonathan Friedman and Michael J. Rowlands, 201–76. London: Duckworth.

FRITZ, GAYLE J.

1989 Evidence of Plant Use from Copple Mound at the Spiro Site. In *Contributions to Spiro Archeology: Mound Excavations and*

Regional Perspectives, edited by J. Daniel Rogers, Donald Wyckoff, and D. Peterson, 65–87. Studies in Oklahoma's Past. Norman: Oklahoma Archeological Survey.

1990 Multiple Pathways to Farming in Precontact Eastern North America. *Journal of World Prehistory* 4:387–435.

FRYMAN, FRANK B., JR.

1970 Interim Report on Completed Highway Archaeological Research and Expenditures. MS on file, Florida Bureau of Archaeological Research, Tallahassee.

GAILEY, CHRISTINE

1985 The Kindness of Strangers: Transformations of Kinship in Precapitalist Class and State Formation. *Culture* 5:3–16.

GALL, DANIEL

1993 Greenstone Artifacts at the Moundville Site, Alabama: Petrography and Provenance. Paper presented at the 58th annual meeting of the Society for American Archaeology, St. Louis.

GALLOWAY, PATRICIA, ED.

1989 *The Southeastern Ceremonial Complex: Artifacts and Analysis The Cottonlandia Conference.* University of Nebraska Press, Lincoln.

GIBBON, GUY E.

1974 A Model of Mississippian Development and Its Implications for the Red Wing Area. In *Aspects of Upper Great Lakes Anthropology,* edited by Elden Johnson, 129–37. St. Paul: Minnesota Historical Society.

GIBBON, GUY E., AND CLARK A. DOBBS

1991 The Mississippian Presence in the Red Wing Area, Minnesota. In *New Perspectives on Cahokia: Views from the Periphery,* edited by James B. Stoltman, 281–305. Madison, Wis.: Prehistory Press.

GILMAN, ANTONIO

1981 The Development of Social Stratification in Bronze Age Europe. *Current Anthropology* 22:1–23.

GLEDHILL, JOHN

1978 Formative Developments in the North American Southwest. In *Social Organization and Settlement,* edited by D. Green, C. Haselgrove, and M. Spriggs, 241–90. BAR International Series 47. Oxford: British Archaeological Reports.

GLUCKMAN, MAX

1951 The Lozi of Barotseland in North-Western Rhodesia. In *Seven Tribes of Central Africa,* edited by Elizabeth Colson and Max Gluckman, 1–93. Manchester, England: Manchester University Press.

GOGGIN, JOHN M., AND WILLIAM C. STURTEVANT

1964 The Calusa: A Stratified, Nonagricultural Society (with Notes on Sibling Marriage). In *Explorations in Cultural Anthropology: Essays in Honor of George Peter Murdock,* edited by Ward H. Goodenough, 179–220. New York: McGraw-Hill.

GOLDMAN, IRVING

1955 Status Rivalry and Cultural Evolution in Polynesia. *American Anthropologist* 57:680–97.

1970 *Ancient Polynesian Society.* Chicago: University of Chicago Press.

GOLDSTEIN, LYNNE G.

1980 *Mississippian Mortuary Practices: A Case Study of Two Cemeteries in the Lower Illinois Valley.* Scientific Papers 4. Evanston, Ill.: Northwestern University Archaeological Program.

GOODMAN, ALAN H., AND GEORGE J. ARMELAGOS

1985 Disease and Death at Dr. Dickson's Mounds. *Natural History* 94:12–18.

GOODMAN, ALAN H., JOHN LALLO, GEORGE J. ARMELAGOS, AND JEROME C. ROSE

1984 Health Changes at Dickson Mounds, Illinois (A.D. 950–1300). In *Paleopathology at the Origins of Agriculture,* edited by Mark Cohen and George Armelagos, 271–305. Orlando: Academic Press.

GRAMLY, RICHARD MICHAEL

1977 Deerskins and Hunting Territories: Competition for a Scarce Resource of the Northeastern Woodlands. *American Antiquity* 42:601–5.

GRANGE, ROGER D.

1972 The I. C. Few Site (38PN2). MS on file, South Carolina Institute of Archaeology and Anthropology, Columbia.

GREGG, MICHAEL L.

1975a A Population Estimate for Cahokia. In *Perspectives in Cahokia Archaeology,* edited by James Brown, 126–36. Bulletin 10. Urbana: Illinois Archaeological Survey.

1975b Settlement Morphology and Production Specialization: The Horseshoe Lake Site, a Case Study. Ph.D. diss., University of Wisconsin, Milwaukee. Ann Arbor, Mich.: University Microfilms.

GRIFFIN, JAMES B.

1946 Cultural Change and Continuity in Eastern United States Archaeology. In *Man in Northeastern North America,* edited by Frederick Johnson, 37–95. Papers of the Robert S. Peabody Foundation for Archaeology 3. Andover, Mass.: Phillips Academy.

1950 A Preliminary Statement on the Collection from the Grassy Lake

Site (MS 4) Madison County, Illinois. Bulletin 6, 35–44. St. Louis: Greater St. Louis Archaeological Society.

1967 Eastern North American Archaeology: A Summary. *Science* 156:175–91.

1977 The University of Michigan Excavations at the Pulcher Site in 1950. *American Antiquity* 42:462–90.

1985 Changing Concepts of the Prehistoric Mississippian Cultures of the Eastern United States. In *Alabama and the Borderlands: From Prehistory to Statehood,* edited by R. Reid Badger and Lawrence Clayton, 40–63. Tuscaloosa: University of Alabama Press.

1986 Review of *Excavations at the Lake George Site, Yazoo County, Mississippi,* by Stephen Williams and Jeffrey P. Brain. *Southeastern Archaeology* 5:71–73.

1993 Cahokia Interaction with Contemporary Southeastern and Eastern Societies. *Midcontinental Journal of Archaeology* 18:3–17.

GRIFFIN, JOHN W.

1950 Test Excavations at the Lake Jackson Site. *American Antiquity* 16:99–112.

GRIFFIN, JOHN W., SUE B. RICHARDSON, MARY POHL, CARL D. MCMURRAY, C. MARGARET SCARRY, SUZANNE K. FISH, ELIZABETH S. WING, L. JILL LOUCKS, AND MARCIA K. WELSH

1984 *Excavations at the Granada Site.* Archaeology and History of the Granada Site, Volume I. Tallahassee: Florida Division of Archives, History, and Records Management.

HALL, ROBERT L.

1967 The Mississippian Heartland and Its Plains Relationship. *Plains Anthropologist* 12:175–83.

1991 Cahokia Identity and Interaction Models of Cahokia Mississippian. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest,* edited by Thomas E. Emerson and R. Barry Lewis, 3–34. Urbana: University of Illinois Press.

HALL, STEPHEN A.

1977 Paleoenvironment. In *Geological and Paleoenvironment of Birch Creek Valley,* edited by Donald O. Henry, 11–31. Tulsa, Okla.: Laboratory of Archaeology, University of Tulsa.

1980 Paleoenvironmental Synthesis of Hominy Creek Valley: Pollen and Land Snail Evidence. In *The Prehistory and Paleoenvironment of Hominy Creek Valley: 1978 Field Season,* 44–55. Contributions in Archaeology 6. Tulsa, Okla.: Laboratory of Archaeology, University of Tulsa.

HALLY, DAVID J.

1980 Archaeological Investigation of the Little Egypt Site (9Mu102), Murray County, Georgia, 1970–72 Seasons. MS submitted to the National Park Service in fulfillment of Contracts 14-10-9-900-390, 1910P21041, 9911T000411, and C5546.

1986 The Cherokee Archaeology of Georgia. In *The Conference on Cherokee Prehistory,* edited by David G. Moore, 95–121. Swannanoa, N.C.: Warren Wilson College.

1990 Upper Savannah River. In *Lamar Archaeology: Mississippian Chiefdoms in the Deep South,* edited by Mark Williams and Gary Shapiro, 52–55. Tuscaloosa: University of Alabama Press.

1993 The Territorial Size of Mississippian Chiefdoms. In *Archaeology of Eastern North America: Papers in Honor of Stephen Williams,* edited by James Stoltman, 143–68. Jackson: Mississippi Department of Archives and History.

1994 An Overview of Lamar Culture. In *Ocmulgee Archaeology, 1936–1986,* edited by David J. Hally, 144–74. Athens: University of Georgia Press.

HALLY, DAVID J., AND JAMES B. LANGFORD JR.

1988 *Mississippi Period Archaeology of the Georgia Valley and Ridge Province.* Laboratory of Archaeology Series Report 25. Athens: Department of Anthropology, University of Georgia.

HALLY, DAVID J., AND LEILA OERTEL

1977 Archaeological Investigations of the Park Mound Site (9Tp41), Troup County, Georgia, 1972 Season. MS submitted to the National Park Service in fulfillment of Contract 14-10-9-900-395.

HALLY, DAVID J., AND JAMES L. RUDOLPH

1986 *Mississippi Period Archaeology of the Georgia Piedmont.* Laboratory of Archaeology Series Report 24. Athens: Department of Anthropology, University of Georgia.

HALLY, DAVID J., CHARLES M. HUDSON, AND CHESTER B. DEPRATTER

1985 The Proto-Historic along the Savannah River. Paper presented at the 42d annual Southeastern Archaeological Conference, Birmingham.

HALLY, DAVID J., MARVIN T. SMITH, AND JAMES B. LANGFORD JR.

1990 The Archaeological Reality of de Soto's Coosa. In *Columbian Consequences II: Archaeological and Historical Perspectives on the Spanish Borderlands East,* edited by David H. Thomas, 121–38. Washington, D.C.: Smithsonian Institution Press.

HANENBERGER, NED H.

1990a The Karol Rekas Site (11-Ms-1255). In *Selected Early Mississippian Household Sites in the American Bottom,* 425–509. Urbana: University of Illinois Press.

1990b The Olszewski Site (11-S-465). In *Selected Early Mississippian*

Household Sites in the American Bottom, 253–423. Urbana: University of Illinois Press.

HANN, JOHN H.

1986a Demographic Patterns and Changes in Mid-seventeenth Century Timucua and Apalachee. *Florida Historical Quarterly* 64:371–92.

1986b Translation of Governor Rebolledo's 1657 Visitation of Three Florida Provinces and Related Documents. *Florida Archaeology* 2:81–145.

1986c Translation of Alonso de Leturiondo's Memorial to the King of Spain. *Florida Archaeology* 2:165–225.

1988a Translation of the Florida Section of the Alvar Núñez Cabeza de Vaca Accounts of the 1528 Trek from South Florida to Apalachee Led by Pánfilo de Narváez. MS on file, Florida Bureau of Archaeological Research, Tallahassee.

1988b *Apalachee: The Land between the Rivers.* Ripley P. Bullen Monographs in Anthropology and History 7. Gainesville: University Presses of Florida.

1990 Summary Guide to Spanish Florida Missions and Visitas with Churches in the Sixteenth and Seventeenth Centuries. *The Americas* 46(4):417–513.

1992 Political Leadership among the Natives of Spanish Florida. *Florida Historical Quarterly* 71:188–208.

1993a Friars' Response to the Rebolledo Visitation of 1657. In *Visitations and Revolts in Florida 1656–1695*, by John Hann, 5–29. Florida Archaeology 7. Tallahassee: Florida Bureau of Archaeological Research.

1993b The Visitation Records of 1677–1678. In *Visitations and Revolts in Florida, 1656–1695*, by John Hann, 77–146. Florida Archaeology 7. Tallahassee: Florida Bureau of Archaeological Research.

1993c The Visitation Records of 1694–1695 and Related Documents. In *Visitations and Revolts in Florida, 1656–1695*, by John Hann, 147–296. Florida Archaeology 7. Tallahassee: Florida Bureau of Archaeological Research.

1994 The Apalachee of the Historic Era. In *The Forgotten Centuries: Indians and Europeans in the American South, 1521–1704*, edited by Charles Hudson and Carmen Tesser, 327–54. Athens: University of Georgia Press.

HARDIN, MARGARET

1981 The Identification of Individual Style on Moundville Engraved Vessels: A Preliminary Note. *Southeastern Archaeological Conference Bulletin* 24:108–10.

HARGRAVE, MICHAEL L.

1983 Ceramic Vessel Form, Decoration, and Chronology. In *The Bridges Site (11-Mr-11) a Late Prehistoric Settlement in the Central Kaskaskia Valley*, by Michael L. Hargrave, Gerald A. Oetelaar, Neal H. Lopinot, Brian M. Butler, and Deborah A. Billings, 176–216. Research Paper 38. Carbondale: Center for Archaeological Investigations, Southern Illinois University.

1992 The Ceramic Assemblage: Vessel Form, Decoration, and Regional Comparisions. In *The Petitt Site (11-Ax-253), Alexander County, Illinois*, edited by Paul A. Webb, 125–82. Research Paper 58. Carbondale: Center for Archaeological Investigations, Southern Illinois University.

HARN, ALAN D.

1971 An Archaeological Survey of the American Bottoms in Madison and St. Clair Counties, Illinois. In *An Archaeological Survey of the American Bottoms and Wood River Terrace*, by Patrick J. Munson and Alan D. Harn, 19–39. Reports of Investigations 21. Springfield: Illinois State Museum.

1975 Cahokia and the Mississippian Emergence in the Spoon River Area of Illinois. *Transactions of the Illinois State Academy of Science* 68:414–34.

1978 Mississippian Settlement Patterns in the Central Illinois River Valley. In *Mississippian Settlement Patterns*, edited by Bruce D. Smith, 233–68. New York: Academic Press.

1980 *The Prehistory of Dickson Mounds: The Dickson Excavation.* 2d ed. Reports of Investigations 35. Springfield: Illinois State Museum.

1991 The Eveland Site: Inroad to Spoon River Mississippian Society. In *New Perspectives on Cahokia: Views from the Periphery*, edited by James B. Stoltman, 129–53. Madison, Wis.: Prehistory Press.

HATCH, JAMES W.

1987 Upland Lamar Farmsteads in the Ocute Province: The Penn State Archaeological Program in Piedmont Georgia. Paper presented at the 44th annual Southeastern Archaeological Conference, Charleston.

HATCH, JAMES W., WAYNE C. BOYKO, AND MARY THERESA BONHAGE-FREUND

1991 Economic Trends during the Lamar Period: A View from the Upland Farmsteads of the Oconee Valley, Georgia. Paper presented at the 56th annual meeting of the Society for American Archaeology, New Orleans.

HEINE-GELDERN, R.

1956 *Conceptions of State and Kingship in Southeast Asia.* Data Paper

18. Ithaca, N.Y.: Cornell University Department of Asian Studies Southeast Asia Program.

HELMS, MARY W.
1979 *Ancient Panama: Chiefs in Search of Power.* Austin: University of Texas Press.
1980 Succession to High Office in Pre-Columbian, Circum-Caribbean Chiefdoms. *Man* 15:718–31.
1988 *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance.* Princeton, N.J.: Princeton University Press.

HENNING, DALE R.
1967 Mississippian Influences on the Eastern Plains Border: An Evaluation. *Plains Anthropologist* 12:184–221.

HENRY, DONALD O.
1978 Big Hawk Shelter in Northeastern Oklahoma: Environmental, Economic, and Cultural changes. *Journal of Field Archaeology* 5:269–87.

HENRY, DONALD O., BARBARA H. BUTLER, AND STEPHEN A. HALL
1979 The Late Prehistoric Human Ecology of Birch Creek Valley, Northeastern Oklahoma. *Plains Anthropologist* 24:207–38.

HEYE, G. G., F. W. HODGE, AND G. H. PEPPER
1918 *The Nacoochee Mound in Georgia.* Contributions from the Heye Museum of the American Indian 2 (1). New York: Heye Foundation.

HICKERSON, HAROLD
1965 The Virginia Deer and Intertribal Buffer Zones in the Upper Mississippi Valley. In *Man, Culture, and Animals,* edited by Anthony Leeds and Andrew P. Vayda, 43–65. AAAS Monograph.

HILL, MARY CASSANDRA
1981 The Mississippian Decline in Alabama: A Biological Analysis. *American Journal of Physical Anthropology* 54:233.

HOBSBAWM, ERIC, AND TERENCE RANGER, EDS.
1983 *The Invention of Tradition.* Cambridge: Cambridge University Press.

HODDER, IAN
1985 Postprocessual Archaeology. In *Advances in Archaeological Method and Theory* 8, edited by Michael B. Schiffer, 1–26. New York: Academic Press.

HODDER, IAN, AND CLIVE ORTON
1976 *Spatial Analysis in Archaeology.* Cambridge: Cambridge University Press.

HOFFMAN, PAUL E.
1994 Narváez and Cabeza de Vaca in Florida. In *The Forgotten Centuries: Indians and Europeans in the American South, 1521–1704,* edited by Charles Hudson and Carmen Chaves Tesser, 50–73. Athens: University of Georgia Press.

HOLLEY, GEORGE R.
1989 *The Archaeology of the Cahokia Mounds ICT-II: Ceramics.* Illinois Cultural Resources Study 11. Springfield: Illinois Historic Preservation Agency.

HOLLEY, GEORGE R., AND ALAN J. BROWN
1989 *Archaeological Investigations Relating to the Glen Carbon Interceptor Sewer Line, Divisions 3 Through 7, Madison County, Illinois.* Archaeology Program Research Report 1. Edwardsville: Contract Archaeology Program, Southern Illinois University.

HOLLEY, GEORGE R., RINITA A. DALAN, AND PHILIP A. SMITH
1993 Investigations in the Cahokia Site Grand Plaza. *American Antiquity* 58:306–19.

HOLLEY, GEORGE R., NEAL H. LOPINOT, WILLIAM I. WOODS, AND JOHN E. KELLY
1989 Dynamics of Community Organization at Prehistoric Cahokia. In *Households and Communities,* edited by Scott MacEachern, David J. W. Archer, and Richard D. Garvin, 339–49. Calgary: Archaeological Association, University of Calgary.

HOLMES, WILLIAM H.
1886 Ancient Pottery of the Mississippi Valley. In *Bureau of Ethnology 4th Annual Report, 1882–83,* 367–436. Washington, D.C.: Government Printing Office.
1903 Aboriginal Pottery of the Eastern United States. In *Bureau of American Ethnology 20th Annual Report, 1898–99,* 1–237. Washington, D.C.: Government Printing Office.

HOLSTEIN, HARRY O., AND KEITH LITTLE
1987 *A Short Term Archaeological Investigation of the Davis Farm Archaeological Complex, a Multicomponent Prehistoric Site in Calhoun Co., Alabama.* Research Series 1. Jacksonville, Ala.: Jacksonville State University Archaeolgoical Resource Lab.

HUDSON, CHARLES M.
1976 *The Southeastern Indians.* Knoxville: University of Tennessee Press.
1986 Some Thoughts on the Early Social History of the Cherokees. In *The Conference on Cherokee Prehistory,* assembled by David G. Moore, 139–57. Swannanoa, N.C.: Warren Wilson College.

1988 A Spanish-Coosa Alliance in Sixteenth-century North Georgia. *Georgia Historical Quarterly* 62:599–626.

1990 *The Juan Pardo Expeditions: Exploration of the Carolinas and Tennessee, 1566–1568.* Washington, D.C.: Smithsonian Institution Press.

HUDSON, CHARLES M., MARVIN T. SMITH, AND CHESTER B. DEPRATTER

1984 The Route of the DeSoto Expedition from Apalachee to Chiaha. *Southeastern Archaeology* 3:65–77.

HUDSON, CHARLES M., MARVIN T. SMITH, DAVID HALLY, RICHARD POLHEMUS, AND CHESTER DEPRATTER

1985 Coosa: A Chiefdom in the Sixteenth-century Southeastern United States. *American Antiquity* 50:723–37.

1987 In Search of Coosa: Reply to Boyd and Schroedl. *American Antiquity* 52:845–57.

HUSCHER, HAROLD A.

1972 Archaeological Investigations in the West Point Dam Area: A Preliminary Report. MS on file, Department of Anthropology and Linguistics, University of Georgia, Athens.

HUTTO, BROOKS

1970 *Archaeological Survey of the Elbert County, Georgia, Portion of the Proposed Trotter's Shoals Reservoir, Savannah River.* Laboratory of Archaeology Series 7. Athens: Department of Anthropology, University of Georgia.

INGMANSON, J. EARL

1964a *Archaeology of the South Plateau, Ocmulgee National Monument.* Tallahassee: National Park Service, Southeast Archeological Center.

1964b *Dunlap and McDougal Mounds, Ocmulgee National Monument.* Tallahassee: National Park Service, Southeast Archeological Center.

JACKSON, DOUGLAS K.

1988 Investigations at the Keller-Samson Borrow Pit: Early Emergent Mississippian Occupations in Madison County, Illinois. Paper presented at the 33d annual meeting of the Midwest Archaeological Conference, Urbana, Illinois.

1990a The Esterlein Site (11-Ms-598). In *Selected Early Mississippian Household Sites in the American Bottom,* 91–216. Urbana: University of Illinois Press.

1990b The Sandy Ridge Farm Site (11-S-660). In *Selected Early Mississippian Household Sites in the American Bottom,* 217–52. Urbana: University of Illinois Press.

1990c The Willoughby Site (11-Ms-610). In *Selected Early Mississippian Household Sites in the American Bottom,* 17–89. Urbana: University of Illinois Press.

1993 The Determann Borrow Site: A Mississippian Occupation on the Silver Creek Drainage. *Illinois Archaeology* 5:355–64.

JACKSON, DOUGLAS K., ANDREW C. FORTIER, AND JOYCE A. WILLIAMS

1992 *The Sponemann Site 2: The Mississippian and Oneota Occupations.* Urbana: University of Illinois Press.

JACKSON, H. EDWIN, AND SUSAN L. SCOTT

1989 Mississippian Homestead-village Symbiosis: Faunal Exploitation in the Tombigbee Valley. Paper presented at the 54th annual meeting of the Society for American Archaeology, Atlanta.

1992 Bone Assemblages, Meat Consumption Patterns, and Social Ranking: A View from the Southeastern U.S. Paper presented at the 57th annual meeting of the Society for American Archaeology, Pittsburgh.

JEFFERIES, RICHARD W., AND DAVID J. HALLY

1975 *An Archaeological Reconnaissance of Structures 1, 2, 3, 33, 51, 58 and 60, Grove River Watershed, Jackson and Banks Counties, Georgia.* Laboratory of Archaeology Manuscript 57. Athens: Department of Anthropology, University of Georgia.

JOHANNESSEN, SISSEL

1984 Paleoethnobotany. In *American Bottom Archaeology,* edited by Charles J. Bareis and James W. Porter, 197–214. Urbana: University of Illinois Press.

JOHNSON, ALLEN W., AND TIMOTHY EARLE

1987 *The Evolution of Human Societies: From Foraging Group to Agrarian State.* Stanford, Calif.: Stanford University Press.

JOHNSON, GREGORY A.

1973 *Local Exchange and Early State Development in Southwestern Iran.* Anthropological Papers 51. Ann Arbor: University of Michigan Museum of Anthropology.

1978 Information Sources and the Development of Decision-Making Organizations. In *Social Archaeology: Beyond Subsistence and Dating,* edited by C. L. Redman, M. J. Berman, E. V. Curtin, W. T. Langhorne Jr., N. M. Versaggi, and J. C. Wanser, 87–112. New York: Academic Press.

1982 Organizational Structure and Scalar Stress. In *Theory and Explanation in Archaeology: The Southampton Conference,* edited by Colin Renfrew, M. J. Rowlands, and Barbara A. Segraves, 389–421. New York: Academic Press.

JONES, B. CALVIN
1972 Colonel James Moore and the Destruction of the Apalachee Missions in 1704. *Bureau of Historic Sites and Properties Bulletin* 2:25–33.
1973 A Semi-subterranean Structure at Mission San Joseph de Ocuya, Jefferson County, Florida. *Bureau of Historic Sites and Properties Bulletin* 3:1–50.
1982 Southern Cult Manifestations at the Lake Jackson Site, Leon County, Florida: Salvage Excavations of Mound 3. *Midcontinental Journal of Archaeology* 7:3–44.
1990 A Late Mississippian Collector. *Soto States Anthropologist* 90:83–86.
1994 The Lake Jackson Mound Complex (8LE1): Stability and Change in Fort Walton Culture. *Florida Anthropologist* 47:120–46.
JONES, B. CALVIN, AND JOHN T. PENMAN
1973 Winewood: An Inland Fort Walton Site in Tallahassee, Florida. *Bureau of Historic Sites and Properties Bulletin* 3:65–90.
JONES, B. CALVIN, AND GARY SHAPIRO
1990 Nine Mission Sites in Apalachee. In *Columbian Consequences II: Archaeological and Historical Perspectives on the Spanish Borderlands East*, edited by David H. Thomas, 491–509. Washington, D.C.: Smithsonian Institution Press.
JONES, B. CALVIN, JOHN H. HANN, AND JOHN F. SCARRY
1991 *San Pedro y San Pablo de Patale: A Seventeenth-century Spanish Mission in Leon County, Florida.* Florida Archaeology 5. Tallahassee: Florida Bureau of Archaeological Research.
JONES, CHARLES C.
1873 *Antiquities of the Southern Indians, Particularly of the Georgia Tribes.* New York: D. Appleton.
JUDGE, CHRISTOPHER
1991 Some Preliminary Thoughts on Barbacoas and the Importance of Food and Tribute in Late Mississippian Times. *South Carolina Antiquities* 23:19–29.
KANDERT, JOSEF
1978 Zande. In *The Early State*, edited by Henri J. M. Claessen and Peter Skalnik, 511–29. The Hague: Mouton.
KAY, MARVIN, GEORGE SABO III, AND RALPH J. MERLETTI
1989 Lake Prehistoric Settlement Patterning: A View from Three Caddoan Civic-ceremonial Centers in Northwest Arkansas. In *Contributions to Spiro Archeology: Mound Excavations and Regional Perspectives*, edited by J. Daniel Rogers, Donald Wyckoff, and D. Peterson, 129–57. Studies in Oklahoma's Past. Norman: Oklahoma Archeological Survey.
KEEL, BENNIE C.
1976 *Cherokee Archaeology: A Study of the Appalachian Summit.* Knoxville: University of Tennessee Press.
KELLAR, JAMES H.
1967 Material Remains. In *Angel Site.* 2 vols., by Glenn A. Black, 431–487. Indianapolis: Indiana Historical Society.
KELLY, A. R.
1972 The 1970–71 Field Seasons at Bell Field Mound, Carters Dam. MS on file, National Park Service, Southeast Archeology Center, Tallahassee.
KELLY, A. R., AND CLEMENS DEBAILLOU
1960 Excavation of the Presumptive Site of Estatoe. *Southern Indian Studies* 12:3–30.
KELLY, A. R., AND ROBERT S. NEITZEL
1959 Chauga Mound and Village (38OC1) and Other Sites in the Hartwell Basin. MS on file, University of Georgia Laboratory of Archaeology, Athens.
1961 *The Chauga Site in Oconee County, South Carolina.* Laboratory of Archaeology Series Report 3. Athens: University of Georgia Department of Anthropology.
KELLY, A. R., FRANK T. SCHNELL, DONALD F. SMITH, AND ANN L. SCHLOSSER
1965 Explorations in Sixtoe Field, Carter's Dam, Murray County, Georgia: Seasons of 1962, 1963, 1964. MS on file, National Park Service, Southeast Archeology Center, Tallahassee.
KELLY, JOHN E.
1980 Formative Developments at Cahokia and the Adjacent American Bottom: A Merrell Tract Perspective. Ph.D. diss., University of Wisconsin, Madison. Ann Arbor, Mich.: University Microfilms.
1987 Emergent Mississippian and the Transition from Late Woodland to Mississippian: The American Bottom Case for a New Concept. In *The Emergent Mississippian: Proceedings of the Sixth Mid-South Archaeological Conference, June 6–9, 1985*, edited by Richard A. Marshall, 212–26. Occasional Papers 87–01. Mississippi State: Cobb Institute of Archaeology, Mississippi State University.
1990a The Emergence of Mississippian Culture in the American Bottom Region. In *The Mississippian Emergence*, edited by B. Smith, 113–52. Washington, D.C.: Smithsonian Institution Press.

1990b Range Site Community Patterns and the Mississippian Emergence. In *The Mississippian Emergence*, edited by Bruce D. Smith, 67–112. Washington, D.C.: Smithsonian Institution Press.

1993a A Summary of the 1991–1992 Archaeological Investigations of the East St. Louis Mound Center (11–S–706), St. Clair County, Illinois. MS on file, Contract Archaeology Program, Southern Illinois University, Edwardsville.

1993b The Pulcher Site. An Archaeological and Historical Overview. *Illinois Archaeology* 5:434–51.

KELLY, JOHN E., STEPHEN J. OZUK, AND JOYCE A. WILLIAMS

1990 *The Range Site 2: The Emergent Mississippian Dohack and Range Phase Occupations.* Urbana: University of Illinois Press.

KELLY, JOHN E., STEVEN J. OZUK, DOUGLAS K. JACKSON, DALE L. MCELRATH, FRED A. FINNEY, AND DUANE ESAREY

1984 Emergent Mississippian Period. In *American Bottom Archaeology*, edited by Charles J. Bareis and James W. Porter, 128–57. Urbana: University of Illinois Press.

KING, ADAM

1991 *Excavations at Mound B, Etowah: 1954–1958.* Master's thesis, Department of Anthropology and Linguistics, University of Georgia, Athens.

KIRCH, PATRICK V.

1984 *The Evolution of the Polynesian Chiefdoms.* Cambridge: Cambridge University Press.

KNIGHT, VERNON J., JR.

1981 Mississippian Ritual. Ph.D. diss., University of Florida. Ann Arbor, Mich.: University Microfilms.

1986 The Institutional Organization of Mississippian Religion. *American Antiquity* 51:675–87.

1989a Symbolism of Mississippian Mounds. In *Powhatan's Mantle: Indians of the Colonial Southeast*, edited by Peter H. Wood, Gregory A. Waselkov, and M. Thomas Hatley, 279–91. Lincoln: University of Nebraska Press.

1989b Certain Aboriginal Mounds at Moundville: 1937 Excavations in Mounds H, I, J, K, and L. Paper presented at the 46th annual meeting of the Southeastern Archaeological Conference, Tampa, Florida.

1990 Social Organization and the Evolution of Hierarchy in Southeastern Chiefdoms. *Journal of Anthropological Research* 46:1–23.

1991 Lake Jackson, and Speculations on a Demographic Paradox. Paper presented at the 48th annual Southeastern Archaeological Conference, Jackson, Mississippi.

1993 Moundville as a Diagrammatic Ceremonial Center. Paper presented at the 58th annual meeting of the Society for American Archaeology, St. Louis.

1994a Evidence for the Dating of Mounds A, B, P, R, and S, Moundville. Paper presented at the 51st annual meeting of the Southeastern Archaeological Conference, Lexington, Kentucky.

1994b Some Developmental Parallels between Cahokia and Moundville. In *Cahokia: Ideology and Dominance in the Mississippian World*, edited by Timothy R. Pauketat and Thomas E. Emerson. Lincoln: University of Nebraska Press. (In press)

KOLATA, ALAN

1990 The Urban Concept at Chan Chan. In *The Northern Dynasties: Kingship and Statecraft in Chimor*, edited by Michael Moseley and Alana Cordy-Collins, 107–44. Washington, D.C.: Dunbarton Oaks Research Library and Collections.

KOLDEHOFF, BRAD, TIMOTHY R. PAUKETAT, AND JOHN E. KELLY

1993 The Emerald Site and the Mississippian Occupation of the Central Silver Creek Valley. *Illinois Archaeology* 5:331–43.

KOWALEWSKI, STEPHEN A.

1986 A Conceptual Framework for Social Evolution. Paper presented at the 43d annual Southeast Archaeological Conference, Nashville.

1992 Clout, Corn, Copper, Core-periphery, Culture Area. Paper presented at the 57th annual meeting of the Society for American Archaeology, Pittsburgh.

KOWALEWSKI, STEPHEN A., AND JAMES W. HATCH

1991 The Sixteenth-century Expansion of Settlement in the Upper Oconee Watershed, Georgia. *Southeastern Archaeology* 10:1–17.

KOWALEWSKI, STEPHEN A., AND MARK WILLIAMS

1988 The Carroll Site (9Pm85): Analysis of the 1936 Excavation. *Southeastern Archaeology* 8 (1): 46–67.

LALLO, JOHN W.

1973 The Skeletal Biology of Three Prehistoric American Indian Societies from Dickson Mounds. Ph.D. diss., University of Massachusetts. Ann Arbor, Mich.: University Microfilms.

LARSEN, CLARK SPENCER

1982 *The Anthropology of St. Catherine's Island 3: Prehistoric Human Biological Adaptation.* Anthropological Papers of the American Museum of Natural History 57 (2). New York: American Museum of Natural History.

LARSEN, CLARK SPENCER, MARGARET J. SCHOENINGER, NIKOLAAS J. VAN DER MERWE, KATHERINE M. MOORE, AND JULIA A. LEE-THORP

1992 Carbon and Nitrogen Stable Isotope Signatures of Human Dietary

Change in the Georgia Bight. *American Journal of Physical Anthropology* 89:197–214.

LARSON, LEWIS H., JR.

1971a Archaeological Implications of Social Stratification at the Etowah Site, Georgia. In *Approaches to the Social Dimensions of Mortuary Practices*, edited by James A. Brown, 58–67. Memoir 25. Washington, D.C.: Society for American Archaeology.

1971b Settlement Distribution during the Mississippian Period. *Southeastern Archaeological Conference Bulletin* 13:19–25.

1972 Functional Considerations of Warfare in the Southeast During the Mississippian Period. *American Antiquity* 37:383–92.

1980 *Aboriginal Subsistence Technology on the Southeastern Coastal Plain During the Late Prehistoric Period.* Ripley P. Bullen Monographs in Anthropology and History 2. Gainesville: University Presses of Florida.

LEADER, JONATHAN

1988 Technological Continuities and Specialization in Prehistoric Metalwork in the Eastern United States. Ph.D. diss., University of Florida. Ann Arbor, Mich.: University Microfilms.

1991 Analyses of Worked Copper from Lake Jackson. Paper presented at the 48th annual Southeastern Archaeological Conference, Mobile, Alabama.

LEDBETTER, R. JERALD, W. DEAN WOOD, KAREN G. WOOD, ROBBIE F. ETHRIDGE, AND CHAD O. BRALEY

1987 Cultural Resources Survey of Allatoona Lake Area. MS submitted to the U.S. Army Corps of Engineers, Mobile District, in fulfillment of Contract DACWO1085-R-0061.

LEE, CHUNG HO

1977 Settlement Pattern Analysis of the Late Mississippian Period in Piedmont Georgia. Ph.D. diss., University of Georgia. Ann Arbor, Mich.: University Microfilms.

LENSKI, GERHARD E.

1966 *Power and Privilege: A Theory of Social Stratification.* New York: McGraw-Hill.

LEWIS, R. BARRY

1991 Mississippi Gulf Coast Economic and Interregional Exchange Patterns: A.D. 1000–1500. Paper presented at the 56th annual meeting of the Society for American Archaeology, New Orleans.

LEWIS, T. M. N., AND MADELINE KNEBERG

1946 *Hiwassee Island.* Knoxville: University of Tennessee Press.

LUER, GEORGE M.

1985 Some Comments on Englewood Incised, Safety Harbor Incised, and Scarry's Proposed Ceramic Changes. *Florida Anthropologist* 38:236–39.

LYNOTT, MARK J., T. W. BOUTTON, JAMES E. PRICE, AND D. E. NELSON

1986 Stable Carbon Isotopic Evidence for Maize Agriculture in Southeast Missouri and Northeast Arkansas. *American Antiquity* 51:51–65.

MCELRATH, DALE L., AND FRED A. FINNEY

1987 *The George Reeves Site.* American Bottom Archaeology FAI-270 Site Reports 15. Urbana: University of Illinois Press.

MCELRATH, DALE L., JOYCE A. WILLIAMS, THOMAS O. MAHER, AND MICHAEL C. MEINKOTH

1987 Emergent Mississippian and Mississippian Communities at the Radic Site. In *The Radic Site and the Marcus Site,* 1–304. American Bottom Archaeology FAI-270 Site Reports 17. Urbana: University of Illinois Press.

MCEWAN, BONNIE G.

1991 San Luis de Talimali: The Archaeology of Spanish-Indian Relations at a Florida Mission. *Historical Archaeology* 25 (3): 36–60.

1992 *Archaeology of the Apalachee Village at San Luis de Talimali.* Florida Archaeological Reports 28. Tallahassee: Florida Bureau of Archaeological Research.

1993 Hispanic Life on the Seventeenth-century Florida Frontier. In *The Spanish Missions of La Florida,* edited by B. McEwan, 295–321. Gainesville: University Press of Florida.

MCPHERRON, ALAN

1967 *The Juntunen Site and the Late Woodland Prehistory of the Upper Great Lakes Area.* Anthropological Papers 30. Ann Arbor: University of Michigan Museum of Anthropology.

MAROTTI, FRANK, JR.

1985 Juan Baptista de Segura and the Failure of the Florida Jesuit Mission, 1566–1572. *Florida Historical Quarterly* 63:267–79.

MARQUARDT, WILLIAM H.

1987 Calusa Social Formation in Protohistoric South Florida. In *Power Relations and State Formation,* edited by Thomas C. Patterson and Christine W. Gailey, 98–116. Washington, D.C.: Archeology Section, American Anthropological Association.

1988 Politics and Production Among the Calusa of South Florida. In *Hunters and Gatherers 1: History, Evolution, and Social Change,* edited by Tim Ingold, David Richs, and James Woodburn, 161–88. New York: St. Martin's Press.

1992 Dialectical Archaeology. In *Archaeological Method and Theory*

4, edited by Michael B. Schiffer, 101–40. Tucson: University of Arizona Press.

MARRINAN, ROCHELLE A.
1993 Archaeological Investigations at Mission Patale, 1984–1992. In *The Spanish Missions of La Florida*, edited by Bonnie G. McEwan, 244–94. Gainesville: University Press of Florida.

MARRINAN, ROCHELLE A., AND STEPHEN C. BRYNE
1986 Apalachee-Mission Archaeological Survey Final Report, Volume 1. MS on file, Florida Bureau of Archaeological Research, Tallahassee.

MARRINAN, ROCHELLE A., JOHN F. SCARRY, AND RHONDA L. MAJORS
1990 Prelude to de Soto: The Expedition of Pánfilo de Narváez. In *Columbian Consequences II: Archaeological and Historical Perspectives on the Spanish Borderlands East*, edited by David H. Thomas, 71–82. Washington, D.C.: Smithsonian Institution Press.

MASON, RONALD J., AND GREGORY PERINO
1961 Microblades at Cahokia, Illinois. *American Antiquity* 26:553–57.

MATTER, ROBERT ALLEN
1973 Economic Basis of the Seventeenth-century Florida Missions. *Florida Historical Quarterly* 52:18–38.

MECH, L. DAVID
1977 Wolf-Pack Buffer Zones as Prey Reservoirs. *Science* 198:320–21.

MEHRER, MARK W.
1982 *A Mississippian Community at the Range Site (11-S-47), St. Clair County, Illinois.* FAI-270 Archaeological Mitigation Project Report 52. Urbana: Department of Anthropology, University of Illinois.
1988 The Settlement Patterns and Social Power of Cahokia's Hinterland Households. Ph.D. diss., University of Illinois. Ann Arbor, Mich.: University Microfilms.

MEINKOTH, MICHAEL C.
1993 Middle Mississippian Households in the Central Illinois River Valley: Examples from the Tree Row and Baker-Preston Sites. *Illinois Archaeology* 5:315–30.

MELBYE, F. JEROME
1963 *The Kane Burial Mounds.* Archaeological Salvage Report 15. Carbondale: Southern Illinois University Museum.

MICHALS, LAUREN
1990 Faunal Exploitation and Chiefdom Organization at Moundville, Alabama. Paper presented at the 55th annual meeting of the Society for American Archaeology, Las Vegas, Nevada.

1992 The Nature of Faunal Exploitation during the Moundville Phase. Paper presented at the 57th annual meeting of the Society for American Archaeology, Pittsburgh.

MILANICH, JERALD T., AND CHARLES M. HUDSON
1993 *Hernando de Soto and the Indians of Florida.* The Ripley P. Bullen Series. Gainesville: University Press of Florida.

MILLING, CHAPMAN
1940 *Red Carolinians.* Columbia: University of South Carolina Press.

MILNER, GEORGE R.
1983 *The Turner and DeMange Sites.* American Bottom Archaeology FAI-270 Site Reports 4. Urbana: University of Illinois Press.
1984a Social and Temporal Implications of Variation among American Bottom Mississippian Cemeteries. *American Antiquity* 49:468–88.
1984b *The Julien Site.* American Bottom Archaeology FAI-270 Site Reports 7. Urbana: University of Illinois Press.
1984c *The Robinson's Lake Site.* American Bottom Archaeology FAI-270 Site Reports 10. Urbana: University of Illinois Press.
1986 Mississippian Period Population Density in a Segment of the Central Mississippi River Valley. *American Antiquity* 51:468–88.
1987 Cultures in Transition: The Late Emergent Mississippian and Mississippian Periods in the American Bottom, Illinois. In *The Emergent Mississippian: Proceedings of the Sixth Mid-South Archaeological Conference, June 6–9, 1985*, edited by Richard A. Marshall, 194–211. Occasional Papers 87–01. Mississippi State: Cobb Institute of Archaeology, Mississippi State University.
1990 The Late Prehistoric Cahokia Cultural System of the Mississippi River Valley: Foundations, Florescence, and Fragmentation. *Journal of World Prehistory* 4:1–43.
1991 American Bottom Mississippian Cultures: Internal Developments and External Relationships. In *New Perspectives on Cahokia*, edited by James Stoltman, 29–47. Madison, Wis.: Prehistory Press.
1993 Settlements Amidst Swamps. *Illinois Archaeology* 5:374–80.

MILNER, GEORGE R., AND SISSEL SCHROEDER
1994 Mississippian Societies: Potent Princes in Pursuit of Power. MS prepared for the seminar "Great Towns and Regional Polities: Cultural Evolution in the U.S. Southwest and Southeasts," organized by Jill Neitzel and held at the Amerind Foundation, Dragoon, Arizona, March 5–12, 1994.

MILNER, GEORGE R., EVE ANDERSON, AND VIRGINIA G. SMITH
1991 Warfare in Late Prehistoric West-Central Illinois. *American Antiquity* 56:581–603.

MILNER, GEORGE R., THOMAS E. EMERSON, MARK W. MEHRER, JOYCE A. WILLIAMS, AND DUANE ESAREY
1984 Mississippian and Oneota Period. In *American Bottom Archaeology*, edited by Charles J. Bareis and James W. Porter, 158–86. Urbana: University of Illinois Press.

MISTOVICH, TIM S.
1986 *Excavations at Sites 1Tu265 and 1Tu423, Oliver Lock and Dam, Tuscaloosa, Alabama.* Report of Investigations 51. Tuscaloosa: University of Alabama Office of Archaeological Research.
1987 *The Mill Creek Site, 1Tu265, Black Warrior River, Alabama.* Report of Investigations 54. Tuscaloosa: University of Alabama Office of Archaeological Research.

MITCHEM, JEFFREY M.
1985 Comments on John Scarry's Fort Walton Type-variety Paper. *Florida Anthropologist* 38:240–41.
1989 Redefining Safety Harbor: Late Prehistoric/Protohistoric Archaeology in West Peninsular Florida. Ph.D. diss., University of Florida. Ann Arbor, Mich.: University Microfilms.

MOONEY, JAMES
1900 *Myths of the Cherokee.* Nineteenth Annual Report of the Bureau of American Ethnology. Washington, D.C.: Government Printing Office.

MOORE, CLARENCE B.
1898 Aboriginal Mounds of the Savannah River. *Journal of the Academy of Natural Sciences of Philadelphia*, 2d ser., 2 (2): 162–72.

MOORE, JOSSELYN F.
1985 Archeobotanical Analyses at Five Sites in the Richard B. Russell Reservoir, Georgia and South Carolina. In *Prehistoric Human Ecology Along the Upper Savannah River: Excavations at the Rucker's Bottom, Abbeville and Bullard Site Groups*, assembled by David G. Anderson and Joseph Schuldenrein, 673–93. Russell Papers. Atlanta: National Park Service.

MORRELL, L. ROSS, AND B. CALVIN JONES
1970 San Juan de Aspalaga (A Preliminary Architectural Study). *Bureau of Historic Sites and Properties Bulletin* 1:23–43.

MORSE, DAN F., AND PHYLLIS A. MORSE
1983 *Archaeology of the Central Mississippi Valley.* New York: Academic Press.

MULLER, JON D.
1984 Mississippian Specialization and Salt. *American Antiquity* 49:489–507.
1986 Pans and a Grain of Salt: Mississippian Specialization Revisited. *American Antiquity* 51:405–8.
1987 Salt, Chert, and Shell: Mississippian Exchange and Economy. In *Specialization, Exchange, and Complex Societies*, edited by Elizabeth Brumfiel and Timothy Earle, 10–21. Cambridge: Cambridge University Press.
1989 The Southern Cult. In *The Southeastern Ceremonial Complex: Artifacts and Analysis, The Cottonlandia Conference*, edited by Patricia Galloway, 11–26. Lincoln: University of Nebraska Press.

MURDOCK, GEORGE P.
1967 *Ethnographic Atlas.* Pittsburgh: University of Pittsburgh Press.

MURDOCK, GEORGE P., AND CATERINA PROVOST
1973 Measurement of Cultural Complexity. *Ethnology* 12:379–92.

NEITZEL, ROBERT S.
1965 *Archaeology of the Fatherland Site: The Grand Village of the Natchez.* Anthropological Papers 51 (1). New York: American Museum of Natural History.

O'BRIEN, MICHAEL J., JOHN L. BEETS, ROBERT E. WARREN, TACHPONG HOTRABHAVANANDA, TERRY W. BARNEY, ERIC R. VOGT
1982 Digital Enhancement and Grey-level Slicing of Aerial Photographs: Techniques for Archaeological Analysis of Intrasite Variability. *World Archaeology* 14:173–90.

O'BRIEN, PATRICIA J.
1972a *A Formal Analysis of Cahokia Ceramics from the Powell Tract.* Monograph 3. Urbana: Illinois Archaeological Survey.
1972b Urbanism, Cahokia and Middle Mississippian. *Archaeology* 25:188–97.
1981 Steed-Kisker: A Cultural Interpretation. *Missouri Archaeologist* 42:97–108.
1989 Cahokia: The Political Capital of the "Ramey" State? *North American Archaeologist* 10:275–92.
1991 Early State Economics: Cahokia, Capital of the Ramey State. In *Early State Economics*, edited by Henri J. M. Claessen and Pieter van de Velde, 143–75. Political and Legal Anthropology Vol. 8. New Brunswick, N.J.: Transaction Publishers.
1993 Steed-Kisker: The Western Periphery of the Mississippian Tradition. *Midcontinental Journal of Archaeology* 18:61–96.

ORANS, MARTIN
1966 Surplus. *Human Organization* 25:24–32.

PARMENTIER, RICHARD J.
1986 Tales of Two Cities: The Rhetoric of Rank in Ngeremlengui, Belau. *Journal of Anthropological Research* 42:161–82.
PATTERSON, THOMAS C., AND CHRISTINE W. GAILEY, EDS.
1987 *Power Relations and State Formation.* Washington, D.C.: Archaeology Section, American Anthropological Association.
PATTON, ROBERT B.
1990 *An Investigation of Domestic Architecture at the Leake Site (9BR2), Bartow County, Georgia.* Honor's thesis, Department of Anthropology and Linguistics, University of Georgia, Athens.
PAUKETAT, TIMOTHY R.
1987 Mississippian Domestic Economy and Formation Processes: A Response to Prentice. *Midcontinental Journal of Archaeology* 12:77–88.
1989 Monitoring Mississippian Homestead Occupation Span and Economy Using Ceramic Refuse. *American Antiquity* 54:288–310.
1993a Preliminary Observations of Building Density at Cahokia's Tract 15A and Dunham Tract. *Illinois Archaeology* 5:402–6.
1993b *Temples for Cahokia Lords.* Memoirs 26. Ann Arbor: Museum of Anthropology, University of Michigan.
1994 *The Ascent of Chiefs: Cahokia and Mississippian Politics in Native North America.* Tuscaloosa: University of Alabama Press.
PAUKETAT, TIMOTHY R., AND WILLIAM I. WOODS
1986 Middle Mississippian Structure Analysis: The Lawrence Primas Site (11–Ms–895) in the American Bottom. *Wisconsin Archeologist* 67:104–27.
PAYNE, CLAUDINE
1981 A Preliminary Investigation of Fort Walton Settlement Patterns in the Tallahassee Red Hills. *Southeastern Archaeological Conference Bulletin* 24:29–31.
1982 Farmsteads and Districts: A Model of Fort Walton Settlement Patterns in the Tallahassee Hills. Paper presented at the 39th annual Southeastern Archaeological Conference, Memphis.
1994a Fifty Years of Archaeological Research at the Lake Jackson Site. *Florida Anthropologist* 47:107–19.
1994b Mississippian Capitals: An Archaeological Investigation of Precolumbian Political Structure. Ph.D. diss., Department of Anthropology, University of Florida, Gainesville.
PAYNE, CLAUDINE, AND JOHN F. SCARRY
1990 Apalachee Prehistory: The Origins and Evolution of the Lake Jackson Phase. Paper presented at the 47th annual Southeastern Archaeological Conference, Mobile.

1994 Town Structure at the Edge of the Mississippian World. In *Mississippian Towns and Central Places,* edited by Barry Lewis and Charles Stout. MS submitted to the University of Alabama Press, Tuscaloosa.
PAYNTER, ROBERT W.
1981 Social Complexity in Peripheries: Problems and Models. In *Archaeological Approaches to the Study of Complexity,* edited by Sander E. van der Leeuw, 117–30. Amsterdam: Universeit van Amsterdam.
PEEBLES, CHRISTOPHER S.
1971 Moundville and Surrounding Sites: Some Structural Considerations of Mortuary Practices II. In *Approaches to the Social Dimensions of Mortuary Practices,* edited by James A. Brown, 68–91. Memoir 25. Washington, D.C.: Society for American Archaeology.
1978 Determinants of Settlement Size and Location in the Moundville Phase. In *Mississippian Settlement Patterns,* edited by Bruce D. Smith, 369–416. New York: Academic Press.
1979 *Excavations at Moundville, 1905–1951.* Microfiche. Ann Arbor: University of Michigan Press.
1981 Archaeological Research at Moundville: 1840–1980. *Southeastern Archaeological Conference Bulletin* 24:77–81.
1986 Lost, Strayed, and Stolen: Prehistoric Social Devolution in the Southeast. In *The Burden of Being Civilized: An Anthropological Perspective on the Discontents of Civilization,* edited by Miles Richardson and Malcolm C. Webb, 24–40. Southern Anthropological Society Proceedings 18. Athens: University of Georgia Press.
1987a Moundville from A.D. 1000 to 1500 as Seen from A.D. 1840 to 1985. In *Chiefdoms in the Americas,* edited by Robert D. Drennen and Carlos A. Uribe, 21–41. Lanham, Md.: University Press of America.
1987b The Rise and Fall of the Mississippian in Western Alabama: The Moundville and Summerville Phases, A.D. 1000 to 1600. *Mississippi Archaeology* 22:1–31.
PEEBLES, CHRISTOPHER S., AND SUSAN M. KUS
1977 Some Archaeological Correlates of Ranked Societies. *American Antiquity* 42:421–48.
PEREGRINE, PETER N.
1991 *Mississippian Evolution: A World-System Perspective.* Madison, Wis.: Prehistory Press.
PERTTULA, TIMOTHY K.
1989 The Lake Prehistoric Period in the Western Ozarks of Southwest

Missouri. In *Contributions to Spiro Archaeology: Mound excavations and Regional Perspectives*, edited by J. Daniel Rogers, Donald Wyckoff, and D. Peterson, 117–27. Studies in Oklahoma's Past. Norman: Oklahoma Archaeological Survey.

PERTTULA, TIMOTHY K., AND JAMES E. BRUSETH
1983 Early Caddoan Subsistence Strategies, Sabine River Basin, East Texas. *Plains Anthropologist* 28:9–21.

PETERSON, GLENN
1982 *One Man Cannot Rule a Thousand: Fission in a Ponapean Chiefdom.* Ann Arbor: University of Michigan Press.

PHILLIPS, PHILIP
1970 *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949–1955.* 2 vols. Papers of the Peabody Museum of Archaeology and Ethnology 60. Cambridge: Harvard University Press.

PHILLIPS, PHILIP, AND JAMES A. BROWN
1978 *Pre-Columbian Shell Engravings from the Craig Mound at Spiro, Oklahoma, Part 1.* Peabody Museum Papers. Cambridge: Peabody Museum Press.

PHILLIPS, PHILIP, JAMES A. FORD, AND JAMES B. GRIFFIN
1951 *Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940–1947.* Papers of the Peabody Museum of American Archaeology and Ethnology 25. Cambridge: Harvard University Press.

PLOG, FRED T.
1974 *The Study of Prehistoric Change.* New York: Academic Press.

PLOG, FRED T., AND STEADMAN UPHAM
1983 The Analysis of Prehistoric Political Organization. In *The Development of Political Organization in Native North America*, edited by Elizabeth Tooker and Morton H. Fried, 199–213. Washington, D.C.: American Ethnological Society.

POLHEMUS, RICHARD R.
1985 *Mississippian Architecture: Temporal, Technological, and Spatial Patterning of Structures at the Toqua Site (40MRs6).* Master's thesis, Department of Anthropology, University of Tennessee, Knoxville.

POLHEMUS, RICHARD R., ED.
1987 *The Toqua Site: A Late Mississippian, Dallas Phase Town.* Reports of Investigations 41. Knoxville: Department of Anthropology, University of Tennessee.

PORTER, JAMES W.
1963a *Bluff Pottery Analysis—Thin Section Experiment No. 2.* Research Report 4. Carbondale: Southern Illinois University Museum Lithic Laboratory.

1963b *Bluff Pottery Analysis—Thin Section Experiment No. 3.* Research Report 5. Carbondale: Southern Illinois University Museum Lithic Laboratory.

1969 The Mitchell Site and Prehistoric Exchange Systems at Cahokia. In *Explorations into Cahokia Archaeology*, edited by Melvin L. Fowler, 137–64. Archaeological Survey Bulletin 7. Urbana: Illinois Archaeological Society.

1974 Cahokia Archaeology as Viewed from the Mitchell Site: A Satellite Community at A.D. 1150–1200. Ph.D. diss., University of Wisconsin. Ann Arbor, Mich.: University Microfilms.

POWELL, MARY LUCAS
1988 *Status and Health in Prehistory: A Case Study of the Moundville Chiefdom.* Smithsonian Series in Archaeological Inquiry. Washington, D.C.: Smithsonian Institution Press.

1991 Ranked Status and Health in the Mississippian Chiefdom at Moundville. In *What Mean These Bones?*, edited by Mary Lucas Powell, Patricia Bridges, and Anne Marie Mires, 22–51. Tuscaloosa: University of Alabama Press.

PRENTICE, GUY
1983 Cottage Industries: Concepts and Implications. *Midcontinental Journal of Archaeology* 8:17–48.

1985 Economic Differentiation among Mississippian Farmsteads. *Midcontinental Journal of Archaeology* 10:77–122.

1987 Marine Shells as Wealth Items in Mississippian Societies. *Midcontinental Journal of Archaeology* 12:193–223.

PRENTICE, GUY, AND MARK MEHRER
1981 The Lab Woofie Site (11-S-346): An Unplowed Mississippian Site in the American Bottom Region of Illinois. *Midcontinental Journal of Archaeology* 6:33–53.

PRICE, JAMES E.
1978 The Settlement Pattern of the Powers Phase. In *Mississippian Settlement Patterns*, edited by Bruce D. Smith, 201–31. New York: Academic Press.

RAFFERTY, JANET E.
1985 The Archaeological Record on Sedentariness: Recognition, Development, and Implications. In *Advances in Archaeological Method and Theory 8*, edited by Michael B. Schiffer, 113–56. New York: Academic Press.

RAU, CHARLES
1869 A Deposit of Agricultural Flint Implements in Southern Illinois. In *Annual Report of the Smithsonian Institution for 1868*, 401–7. Washington, D.C.: U.S. Government Printing Office.

RAYMER, LESLIE E.
1987 Preserved Plant Remains, 1986 Site Testing. In *Preliminary Testing of Caddoan Formative Sites in the Lee Creek Area,* by Lois Albert. Archeological Resources Survey Report. Norman: Oklahoma Archeological Survey.

REED, NELSON A., JOHN W. BENNETT, AND JAMES WARREN PORTER
1968 Solid Core Drilling of Monks Mound: Technique and Findings. *American Antiquity* 33:137–48.

REITZ, ELIZABETH J.
1985 Faunal Analysis. In *Archaeological Investigation of the Beaverdam Creek Site (9EB85), Elbert County, Georgia,* edited by James L. Rudolph and David J. Hally, 416–28. Russell Papers. Atlanta: National Park Service.
1993 Evidence for Animal Use at the Missions of Spanish Florida. In *The Spanish Missions of La Florida,* edited by Bonnie G. McEwan, 376–98. Gainesville: University Press of Florida.

REITZ, ELIZABETH J., AND C. MARGARET SCARRY
1985 *Reconstructing Historic Subsistence with an Example from Sixteenth-century Spanish Florida.* Special Publication Series 3. Glassboro, N.J.: Society for Historical Archaeology.

REITZ, ELIZABETH J., ROCHELLE A. MARRINAN, AND SUSAN L. SCOTT
1987 Survey of Vertebrate Remains from Prehistoric Sites in the Savannah River Valley. *Journal of Ethnobiology* 7:195–221.

RENFREW, COLIN, AND JOHN F. CHERRY, EDS.
1986 *Peer Polity Interaction and Socio-Political Change.* Cambridge: Cambridge University Press.

ROBERTSON, JAMES A., ED. AND TRANS.
1993 The Account by a Gentleman from Elvas. In *The DeSoto Chronicles: The Expedition of Hernando de Soto to North America in 1539–1543, Volume I,* edited by Lawrence A. Clayton, Vernon J. Knight Jr., and Edward C. Moore, 19–220. Tuscaloosa: University of Alabama Press.

RODELL, ROLAND L.
1991 The Diamond Bluff Site Complex and Cahokia Influence in the Red Wing Locality. In *New Perspectives on Cahokia: Views from the Periphery,* edited by James B. Stoltman, 253–80. Madison, Wis.: Prehistory Press.

ROGERS, J. DANIEL
1980 *Spiro Archaeology: 1979 Excavations.* Studies in Oklahoma's Past 6. Norman: Oklahoma Archeological Survey.
1983 Social Ranking and Change in the Harlan and Spiro Phases of Eastern Oklahoma. In *Southeastern Natives and Their Pasts: Papers Honoring Dr. Robert E. Bell,* edited by Don G. Wyckoff and Jack L. Hofman, 17–128. Studies in Oklahoma's Past 11. Norman: Oklahoma Archeological Survey.
1986 Settlement Contexts for Shifting Authority in the Arkansas Basin. Paper presented at the 43d annual Southeastern Archaeological Conference, Nashville.
1987 Markers of Social Integration: A Study of Increasingly Centralized Authority in the Spiro Region. Paper presented at the 44th annual Southeastern Archaeological Conference, Charleston, S.C.
1991 Patterns of Change on the Western Margin of the Southeast, A.D. 600–800. In *Stability, Transformation, and Variation: The Late Woodland Southeast,* edited by Michael S. Nassaney and Charles R. Cobb, 221–48. New York: Plenum Press.
1995 Dispersed Communities and Integrated Households: A Perspective from Spiro and the Arkansas Basin. In *Mississippian Communities and Households,* edited by J. Daniel Rogers and Bruce D. Smith, 110–32. Tuscaloosa: University of Alabama Press.

ROGERS, J. DANIEL, AND KAREN M. DOHM
1995 Stable Isotope Analysis and Diet in Eastern Oklahoma. MS on file, Department of Anthropology, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

ROHRBAUGH, CHARLES
1982 Spiro and Fort Coffee Phases: Changing Cultural Complexes of the Caddoan Area. Ph.D. diss., University of Wisconsin. Ann Arbor, Mich.: University Microfilms.

ROSE, JEROME C., MURRAY K. MARKS, AND LARRY L. TIESZEN
1991 Bioarcheology and Subsistence in the Central and Lower Portions of the Mississippi Valley. In *What Mean These Bones?,* edited by Mary Lucas Powell, Patricia Bridges, and Ann Marie Mires, 7–21. Tuscaloosa: University of Alabama Press.

RUDOLPH, JAMES L.
1984 Earthlodges and Platform Mounds: Changing Public Architecture in the Southeastern United States. *Southeastern Archaeology* 3:33–45.

RUDOLPH, JAMES L., AND DENNIS B. BLANTON
1981 A Discussion of Mississippian Settlement in the Georgia Piedmont. *Early Georgia* 8:14–37.

RUDOLPH, JAMES L., AND DAVID J. HALLY
1985 *Archaeological Investigations at the Beaverdam Creek Site*

(9Eb85), Elbert County, Georgia. Russell Papers. Atlanta: National Park Service.

SABO, GEORGE III, ED.

1986 *Contributions to Ozark Prehistory.* Research Series 27. Fayetteville: Arkansas Archeological Survey.

SAHLINS, MARSHALL D.

1958 *Social Stratification in Polynesia.* Seattle: University of Washington Press.

1963 Poor Man, Rich Man, Big Man, Chief: Political Types in Melanesia and Polynesia. *Comparative Studies in Society and History* 5:285–303.

1965 On the Sociology of Primitive Exchange. In *The Relevance of Models for Social Anthropology,* edited by Michael Banton, 139–236. London: Tavistock.

1985 *Islands of History.* Chicago: University of Chicago Press.

SAITTA, DEAN J.

1994 Agency, Class, and Archaeological Interpretation. *Journal of Anthropological Archaeology* 13:201–27.

SANDERS, WILLIAM T., AND DAVID WEBSTER

1978 Unilinealism, Multilinealism, and the Evolution of Complex Societies. In *Social Archeology: Beyond Subsistence and Dating,* edited by Charles L. Redman, Mary Jane Berman, Edward V. Curtin, William T. Langhorne Jr., Nina M. Versaggi, and Jeffrey C. Wanser, 249–302. New York: Academic Press.

SASSAMAN, KENNETH E., MARK J. BROOKS, GLEN T. HANSON, AND DAVID G. ANDERSON

1990 *Native American Prehistory of the Middle Savannah River River Valley: A Synthesis of Archaeological Investigations on the Savannah River Site, Aiken and Barnwell Counties, South Carolina.* Savannah River Archaeological Research Papers 1. Columbia: South Carolina Institute of Archaeology and Anthropology.

SCARRY, C. MARGARET

1986 Change in Plant Procurement and Production during the Emergence of the Moundville Chiefdom. Ph.D. diss., University of Michigan. Ann Arbor, Mich.: University Microfilms.

1993a Agricultural Risk and the Development of Mississippian Chiefdoms: Prehistoric Moundville a Case Study. In *Foragers and Farmers in the Eastern Woodlands,* edited by C. Margaret Scarry, 157–81. Gainesville: University Presses of Florida.

1993b Variability in Mississippian Crop Production Strategies. In *Farmers and Foragers in the Eastern Woodlands,* edited by C. Margaret Scarry, 78–90. Gainesville: University Presses of Florida.

1993c Plant Production and Procurement in Apalachee Province. In *The Spanish Missions of La Florida,* edited by Bonnie G. McEwan, 357–75. Gainesville: University Press of Florida.

1994 Variability in Late Prehistoric Corn from the Lower Southeast. In *Corn and Culture in the Prehistoric New World,* edited by Sissel Johannessen and Christine A. Hastorf, 347–67. Boulder, Colo.: Westview Press.

SCARRY, C. MARGARET, AND ELIZABETH J. REITZ

1990 Herbs, Fish, Scum, and Vermin: Subsistence Strategies in Sixteenth-century Spanish Florida. In *Columbian Consequences II: Archaeological and Historical Reflections on the Spanish Borderlands East,* edited by David H. Thomas, 343–54. Washington, D.C.: Smithsonian Institution Press.

SCARRY, C. MARGARET, AND JOHN F. SCARRY

1995 Native American Farming Practices in the Late Prehistoric Southeast. Paper presented at the 60th annual meeting of the Society for American Archaeology, Minneapolis.

SCARRY, C. MARGARET, AND VINCAS STEPONAITIS

1995 Between Farmstead and Center: The Natural and Social Landscape of Moundville. In *People, Plants, and Landscapes: Studies in Paleoethnobotany,* edited by Kristin J. Gremillion. Tuscaloosa: University of Alabama Press.

SCARRY, JOHN F.

1984 Fort Walton Development: Mississippian Chiefdoms in the Lower Southeast. Ph.D. diss., Case Western Reserve University. Ann Arbor, Mich.: University Microfilms.

1985 A Proposed Typology for the Mississippian Period Ceramics of the Fort Walton Area: A Type-variety Approach. *Florida Anthropologist* 38:199–233.

1989 A Provisional Chronological Sequence for Apalachee Province. MS on file, Florida Bureau of Archaeological Research, Tallahassee.

1990a Mississippian Emergence in the Fort Walton Area: The Evolution of the Cayson and Lake Jackson Phases. In *Mississippian Emergence: The Evolution of Ranked Agricultural Societies in the Eastern United States,* edited by Bruce D. Smith, 227–50. Washington, D.C.: Smithsonian Institution Press.

1990b The Rise, Transformation and Fall of Apalachee: Political Central-

ization and Decentralization in a Chiefly Society. In *Lamar Archaeology: Mississippian Chiefdoms in the Deep South,* edited by J. Mark Williams and Gary Shapiro, 175–86. Tuscaloosa: University of Alabama Press.

1991 Mound 3 and the Political Structure of the Lake Jackson Chiefdom. Paper presented at the 48th annual Southeastern Archaeological Conference, Jackson, Mississippi.

1992 Political Offices and Political Structure: Ethnohistoric and Archaeological Perspectives on the Native Lords of Apalachee. In *Lords of the Southeast: Social Inequality and the Native Elites of Southeastern North America,* edited by Alex Barker and Timothy Pauketat, 163–83. Archeological Papers of the American Anthropological Association 3. Washington, D.C.: American Anthropological Association.

1994a The Late Prehistoric Southeast. In *The Forgotten Centuries: Indians and Europeans in the American South, 1521–1704,* edited by Charles Hudson and Carmen Tesser, 17–35. Athens: University of Georgia Press.

1994b The Apalachee Chiefdom: A Mississippian Society on the Fringe of the Mississippian World. In *The Forgotten Centuries: Indians and Europeans in the American South, 1521–1704,* edited by Charles Hudson and Carmen Tesser, 156–78. Athens: University of Georgia Press.

1995 Apalachee Homesteads: The Basal Social and Economic Units of a Mississippian Chiefdom. In *Mississippian Communities and Households,* edited by J. Daniel Rogers and Bruce D. Smith, 201–23. Tuscaloosa: University of Alabama Press.

Scarry, John F., and Claudine Payne

1986 Mississippian Polities in the Fort Walton Area: A Model Generated from the Renfrew-Level XTENT Algorithm. *Southeastern Archaeology* 5:79–90.

Schambach, Frank F.

1982 An Outline of Fourche Maline Culture in Southwest Arkansas. In *Arkansas Archeology in Review,* edited by Neal L. Trubowitz and Marvin D. Jeter, 132–97. Research Series 15. Fayetteville: Arkansas Archeological Survey.

Schiffer, Michael B.

1979 A Preliminary Consideration of Behavioral Change. In *Transformations: Mathematical Approaches to Culture Change,* edited by Colin Renfrew and Kenneth L. Cooke, 353–68. New York: Academic Press.

Schnell, Frank T., Vernon J. Knight Jr., and Gail S. Schnell

1981 *Cemochechobee: Archaeology of a Mississippian Ceremonial Center on the Chattahoochee River.* Ripley P. Bullen Monographs in Anthropology and History 3. Gainesville: University Presses of Florida.

Schoeninger, Margaret J., and Mark R. Schurr

1993 Human Subsistence at Moundville: The Stable Isotope Data. Paper presented at the 58th annual meeting of the Society for American Archaeology, St. Louis.

Schoeninger, Margaret J., Nikolaas J. van der Merwe, Katherine Moore, Julia Lee-Thorp, and Clark Spencer Larsen.

1990 Decrease in Diet Quality Between the Prehistoric and Contact Periods. In *The Archaeology of Mission Santa Catalina de Guale, Volume 2: Biocultural Interpretations of a Population in Transition,* edited by Clark S. Larsen, 78–93. Anthropological Papers of the American Museum of Natural History 68. New York: American Museum of Natural History.

Schroedl, Gerald F.

1994 A Comparison of the Origins of Macon Plateau and Hiwassee Island Cultures. In *Ocmulgee Archaeology, 1936–1986,* edited by David J. Hally, 138–43. Athens: University of Georgia Press.

Schroedl, Gerald F., and Brett Riggs

1989 Cherokee Lower Town Archaeology at the Chattooga Site (38Oc18). Paper presented at the 46th annual Southeastern Archaeological Conference, Tampa.

Scott, Susan L.

1981 Economic and Organizational Aspects of Deer Procurement during the Late Prehistoric Period. Paper presented at the 38th annual meeting of the Southeastern Archaeological Conference, Asheville, North Carolina.

1985 Analysis of Faunal Remains Recovered at the Rucker's Bottom Site (9EB91), Elbert County, Georgia. In *Prehistoric Human Ecology Along the Upper Savannah River: Excavations at the Rucker's Bottom, Abbeville and Bullard Site Groups,* assembled by David G. Anderson and Joseph Schuldenrein, 639–64. Russell Papers. Atlanta: National Park Service.

Sears, William H.

1958 The Wilbanks Site (9CK5), Georgia. *Bureau of American Ethnology Bulletin* 169:129–94.

1967 The Tierra Verde Burial Mound. *Florida Anthropologist* 20:25–73.

SEATON, S. LEE
1978 The Early State in Hawaii. In *The Early State,* edited by Henri J. M. Claessens and Peter Skalnik, 269–88. The Hague: Mouton.
SERVICE, ELMAN R.
1971 *Primitive Social Organization: An Evolutionary Perspective.* 2d ed. New York: Random House.
1975 *Origins of the State and Civilization: The Process of Cultural Evolution.* New York: W. W. Norton.
SHAPIRO, GARY
1983 Site Variability in the Oconee Province: A Late Mississippian Society of the Georgia Piedmont. Ph.D. diss., University of Florida. Ann Arbor, Mich.: University Microfilms.
1986 Rivers as Centers, Rivers as Boundaries: Florida Variations on a Mississippian Theme. Paper presented at the 51st annual meeting of the Society for American Archaeology, New Orleans.
1987 *Archaeology at San Luis: Broad Scale Testing, 1984–1985.* Florida Archaeology 3. Tallahassee: Florida Bureau of Archaeological Research.
SHAPIRO, GARY, AND BONNIE G. MCEWAN
1992 *Archaeology at San Luis Part One: The Apalachee Council House.* Florida Archaeology 6 (Part 1). Tallahassee: Florida Bureau of Archaeological Research.
SHAPIRO, GARY, AND RICHARD VERNON
1992 *Archaeology at San Luis Part Two: The Church Complex.* Florida Archaeology 6 (2). Tallahassee: Florida Bureau of Archaeological Research.
SHAPIRO, GARY, AND MARK WILLIAMS
1984 Archaeological Excavations at the Little River Site. Paper presented at the 41st annual Southeastern Archaeological Conference, Pensacola, Florida.
SHELBY, CHARMION, TRANS.
1993 La Florida by Garcilaso de la Vega, the Inca. In *The De Soto Chronicles: The Expedition of Hernando de Soto to North America in 1539–1543,* edited by Lawrence A. Clayton, Vernon J. Knight Jr., and Edward C. Moore, 25–559. Tuscaloosa: University of Alabama Press.
SHENNAN, STEPHEN
1986 Central Europe in the Third Millennium B.C.: An Evolutionary Trajectory for the Beginning of the European Bronze Age. *Journal of Anthropological Archaeology* 5:115–46.

SHERROD, P. CLAY, AND MARTHA A. ROLINGSON
1987 *Surveyors of the Ancient Mississippi Valley.* Research Series 28. Fayetteville: Arkansas Archeological Survey.
SHRYOCK, ANDREW J.
1987 The Wright Mound Reexamined: Generative Structures and the Political Economy of a Simple Chiefdom. *Midcontinental Journal of Archaeology* 12:243–68.
SMITH, BRUCE D.
1978 Variation in Mississippian Settlement Patterns. In *Mississippian Settlement Patterns,* edited by Bruce D. Smith, 479–503. New York: Academic Press.
1984 Mississippian Expansion: Tracing the Historical Development of an Explanatory Model. *Southeastern Archaeology* 3:13–32.
1985 Mississippian Patterns of Subsistence and Settlement. In *Alabama and the Borderlands: From Prehistory to Statehood,* edited by R. R. Badger and L. A. Clayton, 64–79. Tuscaloosa: University of Alabama Press.
1986 The Archaeology of the Southeastern United States: From Dalton to de Soto, 10,500–500 B.P. In *Advances in World Archaeology 5,* edited by Fred Wendorf and Angela Close, 1–94. New York: Academic Press.
1989 Origins of Agriculture in Eastern North America. *Science* 246:1566–71.
SMITH, BRUCE D., ED.
1990 *The Mississippian Emergence: The Evolution of Ranked Agricultural Societies in the Eastern United States.* Washington, D.C.: Smithsonian Institution Press.
SMITH, HALE G.
1948 Two Historic Archaeological Periods in Florida. *American Antiquity* 13:313–19.
1951 Leon-Jefferson Ceramic Types. In *Here They Once Stood: The Tragic End of the Apalachee Missions,* by Mark Boyd, Hale G. Smith, and John W. Griffin, 163–74. Gainesville: University of Florida Press.
SMITH, HALE G., ED.
1973 Analysis of the Lamar Site (9Bi7) Materials at the Southeastern Archeological Center. MS submitted to the National Park Service in fulfillment of Contract CX5000031136.
SMITH, HARRIET M.
1969 The Murdock Mound, Cahokia Site. In *Explorations into Cahokia*

Archaeology, edited by Melvin L. Fowler, 49–88. Bulletin 7. Urbana: Illinois Archaeological Survey.

SMITH, MARION F., AND JOHN F. SCARRY

1988 Apalachee Settlement Distribution: The View from the Florida Master Site File. *Florida Anthropologist* 41:351–64.

1989 A Disquieting Synthesis of Apalachee Fort Walton: Micro-scales for Mississippian Research. Paper presented at the 54th annual meeting of the Society for American Archaeology, Atlanta.

SMITH, MARVIN T.

1981 *Archaeological Investigations at the Dyar Site, 9Ge5*. Wallace Reservoir Project Contribution Number 11. Athens: University of Georgia.

1987 *Archaeology of Aboriginal Culture Change in the Interior Southeast: Depopulation during the Early Historic Period*. Ripley P. Bullen Monographs in Anthropology and History 6. Gainesville: University Presses of Florida.

SMITH, MARVIN T., AND DAVID J. HALLY

1992 Chiefly Behavior: Evidence from Sixteenth Century Spanish Accounts. In *Lords of the Southeast: Social Inequality and the Native Elites of Southeastern North America*, edited by Alex W. Barker and Timothy R. Pauketat, 99–109. Archeological Papers of the American Anthropological Association 3. Washington, D.C.: American Anthropological Association.

SMITH, MARVIN T., AND STEPHEN A. KOWALEWSKI

1981 Tentative Identification of a Prehistoric "Province" in Piedmont Georgia. *Early Georgia* 8:1–13.

SMITH, MARVIN T., J. MARK WILLIAMS, CHESTER B. DEPRATTER, MARSHALL WILLIAMS, AND MIKE HARMON

1988 *Archaeological Investigations at Tomassee (38Oc186) A Lower Cherokee Town*. Research Manuscript Series 206. Columbia: University of South Carolina Institute of Archeology and Anthropology.

SOLIS, CARLOS, AND RICHARD WALLING

1982 *Archaeological Investigations at the Yarborough Site (22Cl814), Clay County, Mississippi*. Report of Investigations 30. Tuscaloosa: Office of Archaeological Research, University of Alabama.

SOUTHALL, AIDAN W.

1956 *Alur Society: A Study in Processes and Types of Domination*. London: W. Heffer and Sons.

SOUTHERLINE, BOBBY G.

1993 *Mississippian Settlement Patterns in the Etowah River Valley near Cartersville, Bartow County, Georgia*. Master's thesis, Department of Anthropology, University of Georgia, Athens.

SPENCER, CHARLES S.

1987 Rethinking the Chiefdom. In *Chiefdoms in the Americas*, edited by Robert D. Drennen and Carlos A. Uribe, 369–89. Lanham, Md.: University Press of America.

SPETH, JOHN D., AND SUSAN L. SCOTT

1985 The Role of Large Mammals in Late Prehistoric Horticultural Adaptations: The View from Southeastern New Mexico. In *Contributions to Plains Prehistory*, edited by David Burley, 233–66. Occasional Paper 26. Edmonton: Archaeological Survey of Alberta.

STAHL, ANN B.

1985 *The Dohack Site*. American Bottom Archaeology FAI-270 Site Reports 12. Urbana: University of Illinois Press.

STAHLE, DAVID W., AND MALCOLM K. CLEAVELAND

1992 Reconstruction and Analysis of Spring Rainfall over the Southeastern U.S. for the Past 1000 Years. *Bulletin of the American Meteorological Society* 73:1947–61.

1994 Tree-Ring Reconstructed Rainfall over the Southeastern U.S.A. During the Medieval Warm Period and Little Ice Age. *Climatic Change* 26:199–212.

STAHLE, DAVID W., MALCOLM K. CLEAVELAND, AND R. S. CERVENY

1991 Tree-ring Reconstructed Sunshine Duration over the Central USA. *International Journal of Climatology* 11:285–95.

STAHLE, DAVID W., MALCOLM K. CLEAVELAND, AND JOHN G. HEHR

1985a A 450-year Drought Reconstruction for Arkansas, United States. *Nature* 316:530–32.

1985b Tree-Ring Dating of Baldcypress and the Potential for Millennia-Long Chronologies in the Southeast. *American Antiquity* 50:796–802.

1988 North Carolina Climate Changes Reconstructed from Tree Rings: A.D. 372 to 1985. *Science* 240:1517–20.

STAHLE, DAVID W., JOHN G. HEHR, GRAHAM G. HAWKS JR., MALCOLM K. CLEAVELAND, AND JOHN R. BALDWIN

1985 *Tree-Ring Chronologies for the Southcentral United States*. Fayetteville: Tree Ring Laboratory and Office of the State Climatologist, Department of Geography, University of Arkansas.

STEINHART, EDWARD I.

1978 Ankole: Pastoral Hegemony. In *The Early State*, edited by Henri J. M. Claessen and Peter Skalnik, 131–50. The Hague: Mouton.

STEPONAITIS, VINCAS P.
1978 Location Theory and Complex Chiefdoms: A Mississippian Example. In *Mississippian Settlement Patterns*, edited by Bruce D. Smith, 417–53. New York: Academic Press.
1981 Settlement Hierarchies and Political Complexity in Nonmarket Societies: The Formative Period of the Valley of Mexico. *American Anthropologist* 83:320–63.
1983a *Ceramics, Chronology, and Community Patterns: An Archaeological Study at Moundville.* New York: Academic Press.
1983b The Smithsonian Institution's Investigations at Moundville in 1869 and 1882. *Midcontinental Journal of Archaeology* 8:127–60.
1986 Prehistoric Archaeology in the Southeastern United States, 1970–1985. *Annual Review of Anthropology* 16:363–404.
1991 Contrasting Patterns of Mississippian Development. In *Chiefdoms: Power, Economy, and Ideology*, edited by Timothy Earle, 193–228. New York: Cambridge University Press.
1992 University of Alabama Excavations at 1Tu50, an Early Mississippian Center near Moundville. *Southeastern Archaeology* 11:1–13.
STOLTMAN, JAMES B.
1986 The Appearance of the Mississippian Cultural Tradition in the Upper Mississippi Valley. In *Prehistoric Mound Builders of the Mississippi Valley*, edited by James B. Stoltman, 26–34. Davenport, Iowa: Putnam Museum.
STOREY, REBECCA
1985 Lake Jackson Skeletal Analysis. MS on file, Florida Bureau of Archaeological Research, Tallahassee.
1991 Bioanthropological Studies of the Lake Jackson Elite. Paper presented at the 48th annual Southeastern Archaeological Conference, Jackson, Mississippi.
STORY, DEE ANN
1981 An Overview of the Archaeology of East Texas. *Plains Anthropologist* 26:139–56.
STOUT, SAM D.
1972 Osteological Analysis. In The I. C. Few Site (38Pn2), by Roger T. Grange Jr., 193–204. MS on file, University of South Carolina Institute of Archaeology and Anthropology, Columbia.
SUSSENBACH, TOM
1993 Agricultural Intensification and Mississippian Developments in the Confluence Region of the Mississippi River Valley. Ph.D. diss., University of Illinois. Ann Arbor, Mich.: University Microfilms.

SWANTON, JOHN R.
1911 *Indian Tribes of the Lower Mississippi Valley and Adjacent Coast of the Gulf of Mexico.* Bureau of American Ethnology Bulletin 43. Washington, D.C.: Government Printing Office.
1946 *The Indians of the Southeastern United States.* Bureau of American Ethnology Bulletin 137. Washington, D.C.: Government Printing Office.
1985 *Final Report of the United States De Soto Expedition Commission.* Classics of Smithsonian Anthropology. Washington, D.C.: Smithsonian Institution Press.
SZUTER, CHRISTINE R.
1979 *The Schlemmer Site: A Late Woodland-Mississippian Site in the American Bottom.* Master's thesis, Department of Anthropology, Loyola University, Chicago.
TAINTER, JOSEPH A.
1977 Modeling Change in Prehistoric Social Systems. In *For Theory Building in Archaeology*, edited by Lewis R. Binford, 327–51. New York: Academic Press.
1988 *The Collapse of Complex Societies.* Cambridge: Cambridge University Press.
TAYLOR, DONNA
1975 Some Locational Aspects of Middle-Range Hierarchical Societies. Ph.D. diss., City University of New York. Ann Arbor, Mich.: University Microfilms.
TESAR, LOUIS D.
1980 *The Leon County Bicentennial Survey Report: An Archaeological Survey of Selected Portions of Leon County, Florida.* Miscellaneous Project Report Series 49. Tallahassee: Florida Bureau of Historic Sites and Properties.
TESAR, LOUIS D., AND B. CALVIN JONES.
1989 In Search of the 1539–40 de Soto Expedition Wintering Site in Apalachee. *Florida Archaeologist* 42:340–60.
THOMAS, CYRUS R.
1894 *Report of the Mound Explorations of the Bureau of Ethnology.* 12th Annual Report of the Bureau of American Ethnology, Washington.
THOMAS, DAVID H., AND CLARK S. LARSEN
1979 *The Anthropology of St. Catherine's Island 2: The Refuge-Deptford Mortuary Complex.* Anthropological Papers of the American Museum of Natural History 56 (1). New York: American Museum of Natural History.

THROOP, A. J.
1928 *Mound Builders of Illinois.* East St. Louis, Ill.: Call Printing.
TIFFANY, JOSEPH A.
1982 Hartley Fort Ceramics. *Proceedings of the Iowa Academy of Science* 89:133–50.
1983 An Overview of the Middle Missouri Tradition. In *Prairie Archaeology: Papers in Honor of David A. Baerreis,* edited by Guy E. Gibbon, 87–108. Publications in Anthropology 3. Minneapolis: University of Minnesota.
1991 Modeling Mill Creek—Mississippian Interaction. In *New Perspectives on Cahokia: Views from the Periphery,* edited by James B. Stoltman, 319–47. Madison, Wis.: Prehistory Press.
TILLEY, CHRISTOPHER
1982 Social Formation, Social Structures, and Social Change. In *Symbolic and Structural Archaeology,* edited by Ian Hodder, 26–38. Cambridge: Cambridge University Press.
TIPPITT, V. ANN, AND WILLIAM H. MARQUARDT
1984 *Archaeological Investigations at Gregg Shoals, a Deeply Stratified Site on the Savannah River.* Russell Papers. Atlanta: National Park Service.
TURKE, PAUL W., AND LAURA L. BETZIG
1985 Those Who Can Do: Wealth, Status, and Reproductive Success on Ifaluk. *Ethnology and Sociobiology* 6:79–87.
TURNER, E. RANDOLPH, III, AND ROBERT S. SANTLEY
1979 Deer Skins and Hunting Territories Reconsidered. *American Antiquity* 44:810–16.
TURNER, VICTOR W.
1957 *Schism and Continuity in an African Society: A Study of Ndembu Village Life.* Manchester, England: University Press.
VANSINA, JAN
1978 The Kuba State. In *The Early State,* edited by Henri J. M. Claessen and Peter Skalnik, 359–80. The Hauge: Mouton.
VELLEMAN, PAUL F., AND DAVID C. HOAGLIN
1981 *Applications, Basics, and Computing of Exploratory Data Analysis.* Boston: Duxbury Press.
VERNON, RICHARD
1988 17th Century Apalachee Colono-ware as a Reflection of Demography, Economics, and Acculturation. *Historical Archaeology* 22:76–82.
VERNON, RICHARD H., AND ANN S. CORDELL
1993 A Distributional and Technological Study of Apalachee Colonoware from San Luis de Talimali. In *The Spanish Missions of La Florida,* edited by Bonnie G. McEwan, 418–42. Gainesville: University Press of Florida.
VERNON, RICHARD, AND BONNIE G. MCEWAN
1990 *Investigations of the Church Complex and Spanish Village at San Luis.* Florida Archaeological Reports 18. Tallahassee: Florida Bureau of Archaeological Research.
VOGEL, JOSEPH O.
1975 Trends in Cahokia Ceramics: Preliminary Study of the Collections from Tracts 15A and 15B. In *Perspectives in Cahokia Archaeology,* 32–125. Bulletin 10. Urbana: Illinois Archaeological Survey.
WADDELL, EUGENE
1980 *Indians of the South Carolina Lowcountry 1562–1751.* Spartanburg, S.C.: Reprint Company.
WALTHALL, JOHN A.
1980 *Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South.* Tuscaloosa: University of Alabama Press.
WARD, H. TRAWICK
1983 A Review of Archaeology in the North Carolina Piedmont: A Study of Change. In *Prehistory of North Carolina: An Archaeological Symposium,* edited by Mark A. Mathis and Jeffery A. Crow, 53–81. Raleigh: North Carolina Division of Archives and History.
WARING, ANTONIO J., JR.
1968a The Southern Cult and the Muskhogean Ceremonial: General Considerations. In *The Waring Papers: The Collected Papers of Antonio J. Waring, Jr.,* edited by Stephen Williams, 30–69. Papers of the Peabody Museum of American Archaeology and Ethnology 58. Cambridge: Harvard University Press.
1968b The Indian King's Tomb. In *The Waring Papers: The Collected Papers of Antonio J. Waring, Jr.,* edited by Stephen Williams, 209–15. Papers of the Peabody Museum of American Archaeology and Ethnology 58. Cambridge: Harvard University Press.
WARING, ANTONIO J., JR., AND PRESTON HOLDER
1945 A Prehistoric Ceremonial Complex in the Southeastern United States. *American Anthropologist* 47:1–34.
WAUCHOPE, ROBERT W.
1948 The Ceramic Sequence in the Etowah Drainage, Northwest Georgia. *American Antiquity* 47:1–34.
1966 *Archaeological Survey of Northern Georgia with a Test of Some Cultural Hypotheses.* Memoir 21. Salt Lake City: Society for American Archaeology.

WEAVER, DAVID S., CAROL ROETZEL, DAVID G. ANDERSON, WILLIAM R. CULBRETH, AND DAVID C. CRASS
1985 A Survey of Human Skeletal Remains from the Rucker's Bottom Site (9EB91), Elbert County, Georgia. In *Prehistoric Human Ecology Along the Upper Savannah River: Excavations at the Rucker's Bottom, Abbeville and Bullard Site Groups*, assembled by David G. Anderson and Joseph Schuldenrein, 591–638. Russell Papers. Atlanta: National Park Service.

WEBB, MALCOLM C.
1974 Exchange Networks: Prehistory. *Annual Review of Anthropology* 3:357–84.

WEBB, WILLIAM S., AND DAVID L. DEJARNETTE
1942 *An Archaeological Survey of Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi, and Tennessee.* Bureau of American Ethnology Bulletin 129. Washington, D.C.: Government Printing Office.

WEDEL, WALDO R.
1943 *Archaeological Investigations in Platte and Clay Counties, Missouri.* Bulletin 183. Washington, D.C.: United States National Museum.

WELCH, PAUL D.
1986 Models of Chiefdom Economy: Prehistoric Moundville as a Case Study. Ph.D. diss., Department of Anthropology, University of Michigan, Ann Arbor.
1989 Chronological Markers and Imported Items from the Roadway Excavations at Moundville. Paper presented at the 46th annual meeting of the Southeastern Archaeological Conference, Tampa, Florida.
1990 Mississippian Emergence in West Central Alabama. In *Mississippian Emergence: The Evolution of Ranked Agricultural Societies in the Eastern United States*, edited by Bruce D. Smith, 197–225. Washington, D.C.: Smithsonian Institution Press.
1991 *Moundville's Economy.* Tuscaloosa: University of Alabama Press.

WELCH, PAUL D., AND C. MARGARET SCARRY
1995 Status-Related Variation in Foodways in the Moundville Chiefdom. *American Antiquity* 60:397–419.

WENHOLD, LUCY
1936 *A Seventeenth-century Letter of Gabriel Diaz Vara Calderón, Bishop of Cuba.* Smithsonian Miscellaneous Collections 95 (16). Washington, D.C.: Government Printing Office.

WHEATLEY, PAUL
1971 *The Pivot of the Four Quarters.* Chicago: Aldine.

WIDMER, RANDOLPH J.
1988 *The Evolution of the Calusa: A Nonagricultural Chiefdom on the Southwest Florida Coast.* Tuscaloosa: University of Alabama Press.
1989 The Relationship of Ceremonial Artifacts from South Florida with the Southeastern Ceremonial Complex. In *The Southeastern Ceremonial Complex: Artifacts and Analysis*, edited by Patricia Galloway, 166–80. Lincoln: University of Nebraska Press.

WILLEY, GORDON R.
1949 *Archeology of the Florida Gulf Coast.* Smithsonian Miscellaneous Collections 113. Washington, D.C.: Government Printing Office.

WILLIAMS, MARK
1975 The Stubbs Mound in Central Georgia Prehistory. MS on file, National Park Service Southeastern Archeological Center, Tallahassee.
1983 The Joe Bell Site: Seventeenth Century Lifeways on the Oconee River. Ph.D. diss., University of Georgia. Ann Arbor, Mich.: University Microfilms.
1984 Archaeological Excavations at Scull Shoals Mounds (9Ge4). *Cultural Resources Report Number 6.* Gainesville, Ga.: U.S. Forest Service, Southern Region.
1986a Scull Shoals Revisited. *Cultural Resource Report.* Gainesville, Ga.: U.S. Forest Service, Southern Region.
1986b *Archaeological Excavations at Shinholser (9Bl1).* Watkinsville, Ga.: LAMAR Institute.
1987 *Archaeological Investigations at Shoulderbone Mounds and Village (9Hk1).* Watkinsville, Ga.: LAMAR Institute.
1988 *Scull Shoals Revisited: 1985 Archaeological Excavations at 9GE4.* Cultural Resource Report 1. Gainesville, Ga.: U.S. Forest Service, Southern Region.
1990 *Archaeological Excavations at Shinholser (9Bl1), 1985 and 1987.* Watkinsville, Ga.: LAMAR Institute.
1992 *Archaeological Excavations at Scull Shoals Mounds (9GE4) 1983 and 1985.* LAMAR Institute Publications 1. Watkinsville, Ga.: LAMAR Institute.
1994a The Origins of the Macon Plateau Site. In *Ocmulgee Archaeology, 1936–1986*, edited by David J. Hally, 130–37. Athens: University of Georgia Press.
1994b Growth and Decline of the Oconee Province. In *The Forgotten Centuries: Indians and Europeans in the American South, 1521–1704*, edited by Charles Hudson and Carmen Tesser, 179–96. Athens: University of Georgia Press.

WILLIAMS, MARK, AND GARY SHAPIRO
1985a Extra Environmental Factors of Settlement Location: The Little River Site in the Oconee Province. Paper presented at the 50th annual meeting of the Society for American Archaeology, Denver.
1985b *Archaeological Excavations at the Little River Site (9Mg46).* Watkinsville, Ga.: LAMAR Institute.
1986a Shoulderbone was a Fourteenth Century Frontier Town. Paper presented at the 42d annual Southeastern Archaeological Conference, Nashville.
1986b *Archaeological Testing at the Lingerlonger Mound, 9Ge35.* Watkinsville, Ga.: LAMAR Institute.
1987 The Changing Contexts of Political Power in the Oconee Valley. Paper presented at the 46th annual Southeastern Archaeological Conference, Charleston.
1990a Paired Towns. In *Lamar Archaeology: Mississippian Chiefdoms in the Deep South,* edited by M. Williams and G. Shapiro, 163–74. Tuscaloosa: University of Alabama Press.
1990b *Archaeological Excavations at the Little River Site (9Mg46), 1984 and 1987.* Watkinsville, Ga.: LAMAR Institute.
WILLIAMS, MARK, AND GARY SHAPIRO, EDS.
1990 *Lamar Archaeology: Mississippian Chiefdoms in the Deep South.* Tuscaloosa: University of Alabama Press.
WILLIAMS, MARSHALL, AND CAROLYN BRANCH
1978 The Tugalo Site. *Early Georgia* 6:32–37.
WILLIAMS, STEPHEN
1990 The Vacant Quarter and Other Events in the Lower Valley. In *Towns and Temples along the Mississippi,* edited by David H. Dye and Cheryl Anne Cox, 170–80. Tuscaloosa: University of Alabama Press.
WILLIAMS, STEPHEN, AND JEFFREY P. BRAIN
1983 *Excavations at the Lake George Site, Yazoo County, Mississippi, 1958–1960.* Peabody Museum Papers 74. Cambridge: Harvard University Press.
WILLIAMS, WOODY, AND CAROLYN BRANCH
1978 The Tugalo Site, 9St1. *Early Georgia* 6:32–37.
WINTERS, HOWARD D.
1974 Some Unusual Grave Goods from a Mississippian Burial Mound. *Indian Notes* 10:34–46.
WINTERS, HOWARD D., AND STUART STRUEVER
1962 The Emerald Mound Group and Village. *Living Museum* 23:86–87.

WITTRY, WARREN L.
1969 The American Woodhenge. In *Explorations into Cahokia Archaeology,* edited by Melvin L. Fowler, 43–48. Bulletin 7. Springfield: Illinois Archaeological Survey.
WITTRY, WARREN L., AND JOSEPH O. VOGEL
1962 Illinois State Museum Projects. In *First Annual Report: American Bottoms Archaeology,* edited by Melvin L. Fowler, 14–30. Urbana: Illinois Archaeological Survey.
WOLF, ERIC R.
1982 *Europe and the People without History.* Berkeley and Los Angeles: University of California Press.
WOOD, W. DEAN, DAN T. ELLIOTT, TERESA P. RUDOLPH, AND DENNIS B. BLANTON
1986 *Archaeological Data Recovery in the Richard B. Russell Multiple Resource Area. The Anderson and Elbert County Groups: 38AN8, 38AN29, 38AN126, 9EB17, 9EN19 and 9EB21.* Russell Papers. Atlanta: National Park Service.
WOODS, WILLIAM I.
1986 Prehistoric Settlement and Subsistence in the Upland Cahokia Creek Drainage. Ph.D. diss., University of Wisconsin, Milwaukee. Ann Arbor, Mich.: University Microfilms.
WOODS, WILLIAM I., AND GEORGE R. HOLLEY
1991 Upland Mississippian Settlement in the American Bottom Region. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest,* edited by Thomas E. Emerson and R. Barry Lewis, 46–60. Urbana: University of Illinois Press.
WORSTER, D.
1979 *Dust Bowl, the Southern Plains in the 1930's.* New York: Oxford University Press.
WORTH, JOHN E.
1988 *Mississippian Occupation of the Middle Flint River.* Master's thesis, Department of Anthropology and Linguistics, University of Georgia, Athens.
WORTH, JOHN E., TRANS.
1993a Relation of the Island of Florida by Luys Hernández de Biedma. In *The De Soto Chronicles: The Expedition of Hernando de Soto to North America in 1539–1543, Volume I,* edited by Lawrence Clayton, Vernon Knight, and Edward Moore, 221–46. Tuscaloosa: University of Alabama Press.
1993b Account of the Northern Conquest and Discovery of Hernando de Soto by Rodrigo Rangel. In *The De Soto Chronicles: The*

Expedition of Hernando de Soto to North America in 1539–1543, Volume I, edited by Lawrence Clayton, Vernon Knight, and Edward Moore, 247–306. Tuscaloosa: University of Alabama Press.

WRIGHT, HENRY T., III

1969 *The Administration of Rural Production in an Early Mesopotamian Town.* Anthropological Papers 38. Ann Arbor: University of Michigan Museum of Anthropology.

1977 Recent Research on the Origin of the State. *Annual Review of Anthropology* 6:379–97.

1984 Prestate Political Formations. In *On the Evolution of Complex Societies, Essays in Honor of Harry Hoijer, 1982,* edited by Timothy K. Earle, 41–78. Other Realities 6. Malibu, Calif.: Undena Press.

WRIGHT, HENRY T., III, AND GREGORY A. JOHNSON

1975 Population, Exchange, and Early State Formation in Southwestern Iran. *American Anthropologist* 77:267–89.

WYCKOFF, DON G.

1980 Caddoan Adaptive Strategies in the Arkansas Basin, Eastern Oklahoma. Ph.D. diss., Washington State University. Ann Arbor, Mich.: University Microfilms.

WYCKOFF, DON G., AND TIMOTHY G. BAUGH

1980 Early Historic Hasinai Elites: A Model for the Material Culture of Governing Elites. *Midcontinental Journal of Archaeology* 5:225–88.

YERKES, RICHARD W.

1983 Microwear, Microdrills, and Mississippian Craft Specialization. *American Antiquity* 48:499–518.

1986 Licks, Pans, and Chiefs: A Comment on "Mississippian Specialization and Salt." *American Antiquity* 51:402–4.

1987 *Prehistoric Life on the Mississippi Floodplain.* Chicago: University of Chicago Press.

1989a Shell Bead Production and Exchange in Prehistoric Mississippian Populations. In *Proceedings of the 1986 Shell Bead Conference,* edited by Charles F. Hayes III, Lynn Ceci, and Connie C. Bodner, 113–23. Research Records 20. Rochester: Rochester Museum.

1989b Mississippian Craft Specialization on the American Bottom. *Southeastern Archaeology* 8:93–106.

1991 Specialization in Shell Artifact Production at Cahokia. In *New Perspectives on Cahokia: Views from the Periphery,* edited by James Stoltman, 49–64. Madison, Wis.: Prehistory Press.

YOFFEE, NORMAN

1993 Too Many Chiefs? (or, Safe Texts for the '90s). In *Archaeological Theory,* edited by Norman Yoffee and Andrew Sherratt, 60–78. Cambridge: Cambridge University Press.