10

The Archaeological
Manifestations
of Spanish St. Augustine

An important result of the excavations discussed in the preceding chap-
ters has been the archaeological documentation of certain specific and
consistent trait complexes in the community. This chapter summarizes
these trait complexes and considers their sensitivity in reflecting social
variability.

The Hispanic Material Pattern

One trait complex of considerable interest to archaeologists is the quan-
tifiable composition of the material assemblage. Table 10.1 shows the
distribution of material culture elements through four Hispanic sites of
the first half of the eighteenth century. The material assemblages have
been ordered into the artifact categories proposed by Stanley South
(1977), which were intended to reflect the range of functional activities
that took place on Euro-American domestic sites of the eighteenth cen-
tury. South suggested that these categories were "useful" and that they
would remain appropriate as more information was accumulated through
excavations (1977:92). More importantly for this study, the use of these
categories permits the comparison of the Hispanic assemblage to the
assemblages reported from various British colonial sites in the south-
eastern United States. Minor adjustments have been made in this classifi-
cation to reflect more meaningfully the composition of the Hispanic mate-
rial assemblage and those activities known to have produced it.

TABLE 10.1
Distribution of Material Assemblages at Four Hispanic Sites

Artifact group	SA–16–23[a]		SA–7–4[b]		SA–7–5[c]		SA–36–4[d]		T	$\bar{x}$	$\bar{X}$ percentage[e]	$O\bar{x}$	Coefficient of variation
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage					
Kitchen	9064	94.46	5737	88.48	1678	77.08	5191	92.73	21.670	5417	88.08	15.300	17.37
Architecture	421	4.40	589	9.08	385	17.68	307	5.48	1702	426	9.15	9.060	4.90
Furniture	0	0	1	.01	5	.23	5	.09	11	3	.08	.003	3.75
Arms	11	.11	3	.05	19	.87	20	.36	53	13	.35	.036	8.85
Clothing	13	.14	71	1.09	27	1.24	19	.34	130	33	.72	.079	11.28
Personal	9	.09	24	.37	5	.23	11	.20	49	12	.22	.005	2.38
Tobacco	47	.49	56	.86	48	2.20	37	.66	188	47	1.04	.155	149.04
Activities	31	.31	3	.05	10	.46	8	.14	52	13	.24	.008	3.33
Total	9596		6484		2177		5598		23.855	5964			

[a] Low-income mestizo site (see Chapter 6).
[b] Lower-income criollo site (see Chapter 5).
[c] High-income criollo site (Deagan 1976).
[d] Mid-to-upper-income criollo site (Poe 1979).
[e] Mean of percentage values for each site.

The four Hispanic sites used in this discussion include one mestizo site (SA–16–23), discussed in Chapter 6, and three criollo sites. One of the criollo sites, SA–7–4, was discussed in Chapter 5, and the other two, SA–36–4 and SA–7–5, were reported in other publications (Deagan 1978b; King 1981; and Poe 1979 for SA–36–4; Deagan 1976 for SA–7–5). (See Appendix 3 for the artifact class distributions for the latter two sites.)

All of the data upon which the distribution figures are based is from undisturbed closed contexts deposited between 1700 and 1763, and all of it was recovered by water screening through ¼-in. mesh. Although the assemblage, totaling 23,855 artifacts, is certainly not the total number of artifacts recovered from the sites, it is the maximum group of items that can confidently be attributed to deposition by the inhabitants of those sites between 1700 and 1763.

One immediately apparent feature of the Hispanic distribution is the domination of the assemblage by the Kitchen activity group and the preponderance of ceramics within that group (Table 10.2). This was a consistent feature of all the sites sampled, from the lowest income mestizo site to the highest income criollo official.

The dominance of ceramics in the Spanish assemblage is a long-standing and conservative tradition, and domestic sites of the sixteenth century in St. Augustine generally follow the same ceramic ratio pattern as do the eighteenth-century sites. South (1980) noted this same phenomenon at the site of Santa Elena.

Few Spanish domestic sites have been systematically excavated and reported outside of Florida, but there are reports from eighteenth-century Santa Rosa Pensacola (Smith, H., 1965a), Nueva Cadiz, Venezuela (Willis 1976), and Santa Elena, South Carolina (South 1980), available for

TABLE 10.2
Ceramic and Colono-ware Ratios at Hispanic Sites

Site	Ceramic ratio	Colono pottery ratio	Total artifacts	European ceramics (percentage)	Aboriginal ceramics (percentage)
Eighteenth-century St. Augustine					
SA–16–23 (de la Cruz)[a]	13.15	4.03	9596	7.0	93.0
SA–7–4 (de Hita)[b]	5.17	1.53	6484	36.0	64.0
SA–7–5 (Avero)[c]	1.86	.59	2177	41.7	58.0
SA–36–4 (Ponce de León)[d]	4.51	.99	5598	39.0	61.0
Eighteenth-century Pensacola[e]	3.22	.35	26,541	56.0	44.0
Sixteenth-century St. Augustine					
SA–34–1[f]	3.92		3423	43.8	56.1
SA–26–1[g]	11.52		1716	57.8	42.2
SA–36–4[h]	16.50		1558	38.8	61.2
Sixteenth-century Santa Elena[i]					
Moat	72.75		295	21.0	79.0
Hut	20.13		1120	89.7	10.3
Sixteenth-century Nueva Cadiz[j]	20.49		13,819	35.0	65.0

[a] See Chapter 6.
[b] See Chapter 5.
[c] Deagan 1976.
[d] Poe 1979.
[e] Smith, H., 1965b.
[f] Vernon 1981.
[g] Deagan 1978b.
[h] Deagan 1978.
[i] South 1980.
[j] Willis 1976.

quantitative comparison. Santa Rosa is an eighteenth-century site with wooden structures, whereas Nueva Cadiz and Santa Elena are sixteenth-century sites with stone buildings and with wattle and daub and tabby architecture, respectively. Table 10.2 shows the ceramic ratios for all of these sites, indicating a consistent dominance of ceramics in Spanish colonial assemblages in general. This is in extraordinary contrast to the ceramic ratios on the British colonial sites of the Carolinas that were analyzed by South (1977:172) to develop the ceramic ratio. The values for the British sites ranged from .44 to .79 for domestic sites and from .11 to .25 for military sites and frontier sites (South:1977:172).

Certainly, the high proportion of ceramics in the Spanish assemblage is related to the flourishing ceramic traditions of Spain in the sixteenth century and for some centuries after that. The production and use of ceramics for an extremely wide range of functions was common throughout sixteenth-century Spain, as it is today (see Bellas Artes 1980; Morales 1981). Furthermore, from the earliest days of New World contact, the Spaniards had a ceramic-producing native population under their direct control through the repartimiento and encomienda systems (see Chapter 2

and Gibson 1966:Ch. 3). In the Caribbean and in parts of New Spain the colonists quickly organized native potters to produce ceramic forms suitable for Spanish tastes (see Ortega y Fondeur 1978). This resulted in a ceramic tradition that combined Old World, New World, and newly synthesized traits. In Florida, however, the colonists simply adopted the traditional aboriginal ceramic forms and styles with few modifications. This was undoubtedly related to the absence of both *encomienda* and European potters in the Florida colony and also to the immediate and continued role of native women in the households of the Spanish town (see Deagan 1973 and Chapter 6). The widespread presence of Indian women in Hispanic kitchens could account for the incorporation of both native foodways and native foodway technology into the Spanish town, and native cooks would not consider modification of the forms to be necessary. (For additional discussion of the role of aboriginal ceramics in the Hispanic kitchens of St. Augustine from the sixteenth through the eighteenth centuries, see Bostwick 1976; Herron 1978; Otto and Lewis 1975.)

Whether the local ceramics were modified or not, their incorporation into the Spanish colonial system must have been a positive economic factor. Throughout the early days of Spanish colonization (and particularly in Florida and the Caribbean), the settlements were government-subsidized, military-oriented and male-dominated *presidios*. The presence of a locally available kitchenware (used in any case very often by locally available women) would have relieved the necessity of importing such utilitarian goods on the expensive *situado* (see Gibson 1966; Knight 1978; and Chapters 2 and 3).

Another influential factor in the high ceramic ratios at Hispanic sites is the architectural traditions at the sites observed. Wattle and daub in sixteenth-century St. Augustine, wattle and daub and tabby at Santa Elena, stone at Nueva Cadiz, and tabby and shellstone at eighteenth-century St. Augustine all would have considerably reduced the number of architectural elements from the level expected at a site with wooden structures. This is especially evident at Pensacola, where the structures were of wood and the ceramic ratio was 3.22. Although this is considerably lower than the ratio at the other Spanish sites with masonry structures, it is nevertheless considerably higher than it is at contemporary British sites with wooden structures.

The Spanish site of Pensacola was occupied between 1722 and 1752 in the western part of the Florida panhandle. The site was excavated by Hale Smith in 1964. Sampling strategies, recovery methods, and the use of documentary controls differed considerably at that site from those used in St. Augustine. Thus the Santa Rosa material is used here only as a general comparison of the St. Augustine–derived Hispanic material pattern, with the pattern of a community in the same environmental area, time period, and cultural affiliation. The similarity of the overall Pen-

TABLE 10.3
Comparison of Pensacola and St. Augustine Spanish Assemblages

Artifact group	Pensacola $\bar{X}$	St. Augustine $\bar{X}$	t value[a] (Pensacola versus St. Augustine)
Kitchen	83.7	88.08	.25
Architecture	16.30	9.15	.70
Furniture	.04	.08	11.86
Arms	.90	.35	13.59
Clothing	.20	.72	5.85
Personal	.07	.22	26.70
Tobacco	1.50	1.04	2.65
Activities	.32	.24	8.90

[a] $t = \dfrac{(\bar{X} - Xi)\,(n/n + 1)^2}{O\bar{x}}$ ($n = 4$, $df = 3$, $\alpha = .01$, tabular value = 4.303)

$\chi^2 = 7.22$ (H_0 = Pensacola assemblage is not different from the St. Augustine assemblage)
$df = 7$, $\alpha = .250$, tabular value = 9.03715

sacola assemblage with the St. Augustine assemblage was tested using the chi-square statistic, which indicated that the null hypothesis of sameness could not be rejected at any level of significance. This suggests that the material pattern exhibited by the St. Augustine sites can also describe other eighteenth-century Spanish colonial communities. Pensacola was a domestic frontier town with a military population governed from St. Augustine. It had close contacts with the French community at present-day Mobile, Alabama (see McGovern 1974; Smith, H., 1965a). Artifact group frequencies of St. Augustine and Pensacola are very similar in the Kitchen and Activities groups and most distinct in the Personal and Arms groups. The remote location of Pensacola, its wood architecture, the presence of trade with the French colony, and the dominance of soldiers in the population (see Leonard 1974:39–42) should be reflected as distinctions in the archaeological records between St. Augustine and Pensacola. Such distinctions were present in the categories of Furniture, Arms, Clothing, and Personal items, which were established as significantly different from the St. Augustine values. This was done by the application of the student's t test to the null hypothesis that Pensacola (a single variate) was not significantly different from St. Augustine (a sample mean) in each artifact group (Table 10.3) (see Thomas 1976:240–241).[1] It should also be noted that all

[1] It must be pointed out that unlike Thomas's use of this test for this type of comparison, the St. Augustine data are expressed as percentages rather than as raw numbers. Admittedly, this reduces the strength and significance of the results through the reduction of the original values into proportions. These tests are used here, however, only as a general relative measure of difference between groups, intended only to assess differences in terms of the range of variability in the grouped samples. This reservation should be kept in mind for all such uses of the tests of association throughout this chapter.

calculations were done using the standard error of the mean (O_x), rather than the standard deviation (O), because the data were mean values derived from multiple excavation samples, expressed as percentages.

The Arms category was significantly larger at Pensacola, as might be expected at a frontier site, and the Furniture, Clothing, and Personal groups were significantly smaller. It is also of interest that despite the documented differences in the two communities, their Kitchen and Architecture groups are statistically similar. These groups account for more than 97% of the Hispanic assemblage in both communities. The Kitchen group in particular is consistently dominant at the sites—no doubt a function of the important role of ceramics in the assemblage, as discussed earlier.

Another distinctive feature of the Hispanic assemblage is the consistent incorporation of aboriginal wares. This was also based in the Spanish–Indian interaction patterns and economic factors, discussed earlier in the chapter. The colono-Indian ratios (South 1977:175) of the eighteenth-century Spanish sites is consistently high—.35–4.03 (see Table 10.2)—far exceeding the ratios for the Anglo sites noted by South (1977:175). It will be of considerable interest to observe this phenomenon at Spanish sites outside of North America. If the adoption of aboriginal wares and colono-Indian wares was a consistent Hispanic-American trait, then the colono-

TABLE 10.4
Distribution of Kitchen Group at the Spanish Sites

Kitchen items	SA–16–23		SA–7–4		SA–36–4		SA–7–5		T	X̄	X̄ percentage
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage			
Ceramics											
Majolica	237	2.61	670	11.70	698	13.60	284	16.90	1889	419	7.8
Hispanic coarse earthenwares[a]	113	1.25	620	10.80	612	11.80	207	12.30	1552	388	7.2
Faience	3		17		18		6		44		
Delftware	71		190		109		47		417		
Coarse earthenware[b]	66		186		171		24		447		
Refined earthenware[c]	22		166		18		16		222		
Stoneware	40		53		133		17		243		
Porcelains	7		20		33		3		63		
Aboriginal wares	8359	92.22	3520	61.50	2791	53.77	805	47.90	15,485	3871	72.2
(Subtotal)	(8918)	(98.48)	(5442)	(94.89)	(4583)	(88.29)	(1409)	(83.97)	(20,362)	(5091)	(95.0)
Spirit bottles	20	.22	116	2.02	513	9.88	22	1.31	655	164	
Glassware	106	1.17	172	3.00	89	1.71	225	13.41	595	150	
Tumblers	0	0	0		0		4	.24	6	1.5	
Goblets	4	.04	0		0		1	.06	5	1.25	
Pharmaceuticals	0	0	0		2	.04	9	.53	11	2.75	
(all glass)	(130)	(1.43)	(288)	(5.02)	(604)	(11.63)	(261)	(15.55)	(1272)	(318.0)	(5.9)
Kitchenwares	8	.09	5	.09	4	.08	8	.48	25		
Total Kitchen Group	9056		5735		5191		1678		21,669	5417	

[a] Olive jar, El Morro, Spanish storage jar, Aztec IV, Mexican red painted.
[b] Slipware, indeterminate lead-glazed earthenware.
[c] Astbury, Jackfield, Wheildon, and agate ware.

Indian pottery ratio should be high at most Hispanic colonial sites. Furthermore, if the emphasis on ceramics for a wide variety of functions is also a consistent Hispanic-American tradition, the Kitchen group should dominate those assemblages, and the ceramic ratio should be consistently high (independent of the architectural traditions).

As well as dominating the material assemblage, the Kitchen group among the Spanish sites is responsive to intersite variations. The variability level of the overall Kitchen group was measured by the coefficient of variability (after South's use, 1977:121). This was calculated for the Spanish sites using the standard error of the mean rather than the standard deviation (see Table 10.1). Because of its dominance in the assemblage and its sensitivity to intersite variability, the Kitchen group is examined more closely later in the chapter in order to observe better the characteristics of intersite variability in the St. Augustine community (see Table 10.4). The other activity groups are also included in this examination; because of their very small size in the Hispanic sample, however, they have not been subdivided to the class level.

The analysis of the four Hispanic sites in St. Augustine reflects certain patterned differences in the material assemblages of the community, and fortunately, these differences can be linked to such documented social attributes as economic status and ethnic affiliation.

Variability among the Hispanic Sites

ECONOMIC STATUS

Economic position in the community was measured by the income of the household and the occupation of the occupant within the highly structured military community (see Chapter 3, Table 3.2).

The de la Cruz site, SA–16–23 (see Chapter 6), was a mestizo household with an income level of about 91 pesos in 1763, and 132 before 1758, when Maria de la Cruz's soldier husband died (Table 3.2; Poe 1979). The de Hita site, SA–7–4 (see Chapter 5), was the home of a *criollo* soldier with an income of 264 pesos per year (Table 3.2; Poe 1979), whereas the Ponce de León site, SA–36–4 (Poe 1979), was the site of the garrison's sergeant major with an income of 480 pesos. The Avero site, SA–7–5 (Deagan 1976), was the home of the royal storehouse official, with a salary of 590 pesos per year supplemented by income from various business activities (Michael Scardaville, personal communication, St. Augustine, 1979).

An underlying assumption of this study was that if a particular material variable was predictably associated with economic status (as measured by income level), then the proportion of that material variable in the assemblage of each household should vary among the households in relation to variance in income level. If an attribute had a positive correlation with income, it should increase across sites as income increases. If an attribute
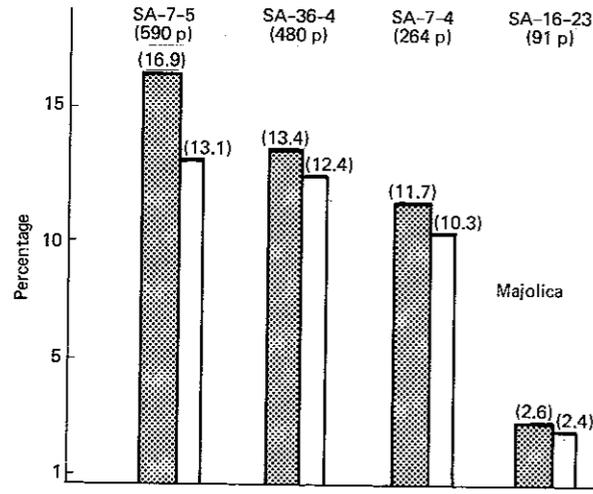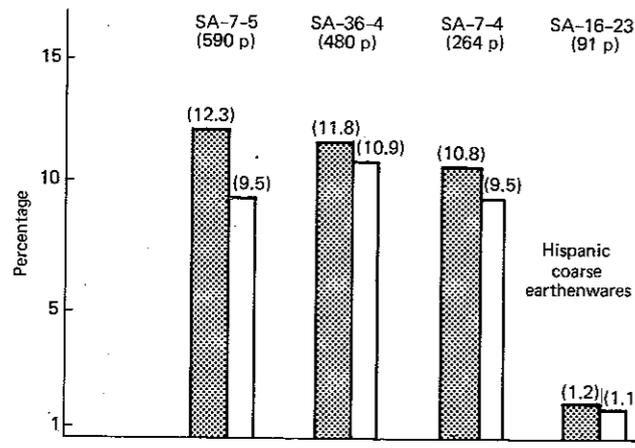
FIGURE 10.1. Distribution of majolica by income. The shaded area indicates the proportion of the Kitchen group assemblage, and the unshaded area the proportion of the total artifact assemblage. (p represents pesos of income.)

has a negative correlation with income, it should decrease across sites as income increases.

To test this assumption, elements in the assemblages of the four Spanish sites were ranked according to their incomes, and then elements of the material assemblages were plotted in the same rank order as the sites (see Figures 10.1–10.5). The analysis of the Kitchen group indicates that four categories of materials vary consistently across the sites in relation to income. Aboriginal wares and non-Hispanic European ceramics vary negatively with income, in contrast with Spanish majolica, Hispanic coarse earthenwares, and all glassware, which vary positively with income. The proportions of these classes within the Kitchen assemblage,

FIGURE 10.2. Distribution of Hispanic course earthenwares by income. The shaded area indicates the proportion of the Kitchen group assemblage, and the unshaded area the proportion of the total artifact assemblage. (p represents pesos of income.)
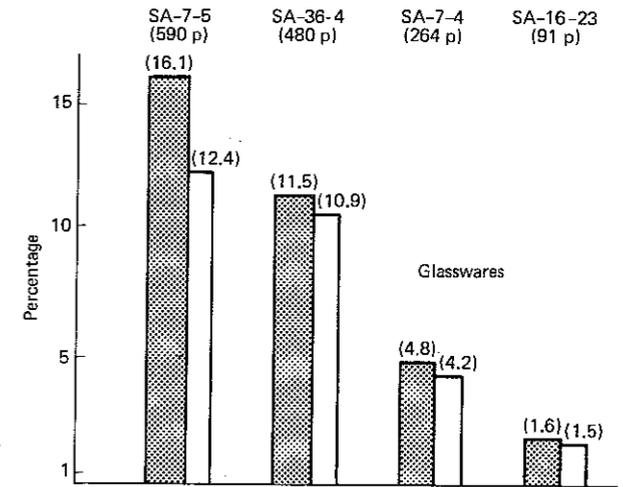
FIGURE 10.3. Distribution of all glassware by income. The shaded area indicates the proportion of the Kitchen group assemblage, and the unshaded area the proportion of the total artifact assemblage. (p represents pesos of income.)

rather than the proportion within the total site assemblage, were computed and then ranked. Except for the Architecture group, the samples from other non-Kitchen categories were too small to permit a similar class breakdown. Only the Furniture group varies consistently in relation to income.

Since none of the other groups or classes varies consistently in either direction with income, it can be suggested that those categories (kitchenwares, porcelains, Arms, Personal, Tobacco, Architecture, Activities, and Clothing) do not function as strong indexes of economic status in sites of eighteenth-century Hispanic Florida. The presence in the community of those classes that do provide such an index, however, is related to two
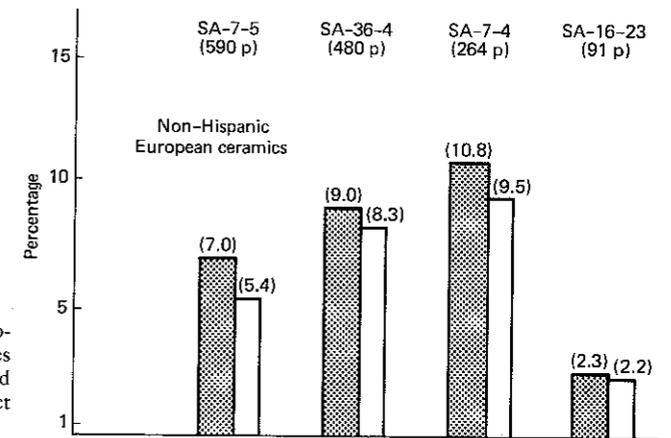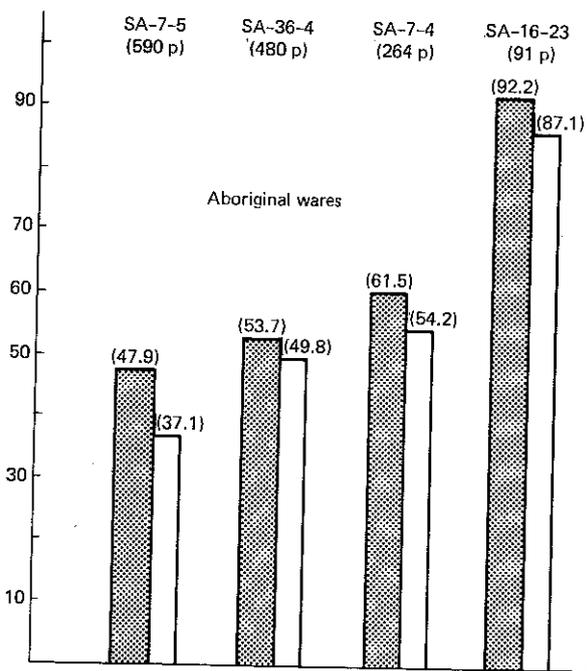

FIGURE 10.4. Distribution of non-Hispanic European ceramics by income. The shaded area indicates the proportion of the Kitchen group assemblage, and the unshaded area the proportion of the total artifact assemblage. (p represents pesos of income.)

FIGURE 10.5. Distribution of aboriginal ceramics by income. The shaded area indicates the porportion of the Kitchen group assemblage, and the unshaded area indicates the proportion of the total artifact assemblage. (p represents pesos of income.)

factors: accessibility and socio-technic identification. Aboriginal ceramics were both locally available and were identified with a non-European and non-Hispanic population. This was the strongest index of low income in the sample. The class of "non-Hispanic European ceramics" was also widely and cheaply available in St. Augustine through contraband and other trade (see Chapter 3; Griñan 1756 in Scardaville and Belmonte 1979; Harman 1969). This ware was also identified with a non-Hispanic group and was the second-best index of low income.

The European ceramics that varied positively with income were majolica and Hispanic coarse earthenwares, both of which were available through the *situado*, more expensive than contraband goods, and identified with a Hispanic origin (Griñan 1756 in Scardaville and Belmonte 1979). Although we cannot determine the origin of much of the glass in St. Augustine, because of its fragmented condition, its variance in relation to income suggests that much of it, too, may have been of Hispanic origin.

Thus the material elements that provide a positive index of income level of a household in eighteenth-century Hispanic St. Augustine were costly, in terms of both price and availability, and also of Hispanic origin. Possibly these reinforced a desirable social identification as a "Spaniard," as suggested by Shephard (see Chapter 5).

Analysis of the faunal assemblages from households of varying income also indicates that costly and "Hispanic" elements were positively associated with income level. Reitz and Cumbaa (see Chapter 8) found that high-income Spanish households adopted a foodways pattern most similar to the "Iberian barnyard complex" of dependence upon a wide variety of mammals. Furthermore, the upper-income sites had a wider range of food elements as a result of having access to the marketplace and to food-procurement specialists. The distribution of elements through households of known income level in eighteenth-century St. Augustine suggests that the recognition of economic status in the archaeological record is related to both those elements that are relatively inaccessible (through either cost or effort) and those elements that provide an identification with the most prestigious social elements in the community (in this case, Spanish).

Because the sites that comprised this study included only one mestizo site and one Indian site (located outside the Hispanic town), any conclusions regarding ethnic differentiation in the archaeological record must be considered tentative. Despite this, however, the distinctions between the sites in this small sample are so marked that they cannot be ignored.

ETHNIC IDENTIFICATION

The aboriginal site at the Fountain of Youth Park (see Chapter 7) had almost no similarity to any of the Spanish sites. Material culture was exclusively aboriginal and almost exclusively composed of food procurement and preparation elements. There is little difficulty in distinguishing an aboriginal domestic site from any European domestic site in St. Augustine.

This is not the case for mixed Spanish–Indian sites within the town, which contain a blend of Spanish, European, and aboriginal elements (see Chapter 6). Table 10.5 shows the mean values for artifact groups and classes for the three *criollo* sites in the sample compared with the values from the mestizo site. The overall mestizo assemblage is not overwhelmingly different from the overall *criollo* assemblage (as reflected in the *criollo* mean values and standard error of the mean as shown in Table 10.3). The chi-square value of 6.076 does not allow us to reject the null hypothesis that the mestizo assemblage is not significantly different from the *criollo* assemblage (two tailed; seven degrees of freedom; tabular value of 14.067).

Distinctions between the two assemblages are not as clear on the individual class levels. The application of Student's t to compare a single variate—the mestizo site proportion—to a known sample mean—the *criollo* site proportion (see Thomas 1976:240–241)—tested the null hypothesis that the mestizo site proportion of each artifact group was not significantly different from that of the *criollo* sample (in other words, that

TABLE 10.5
t-*Test Comparison of Mestizo Assemblage with* Criollo *Group Assemblage*

Artifact group	criollo $\bar{X}$	$(O\bar{x})$	Mestizo $\bar{X}$	t value[a]
Kitchen	85.97	(21.78)	94.40	.29
Aboriginal	53.35	(15.50)	92.23	1.88
Majolica	14.0	(2.34)	2.62	3.65
Hispanic coarse earthenwares	11.6	(.19)	1.20	40.21 [b]
Non-Hispanic European earthenwares	8.95	(1.56)	2.31	3.19
Glass	10.29	(7.80)	1.46	.85
Kitchenwares	.21	(.02)	.16	2.21
Architecture	10.7	(13.10)	4.40	.361
Furniture	.11	(.004)	0	20.62 [b]
Arms	.43	(.06)	.11	4.07 [b]
Clothing	.88	(.07)	.14	7.60 [b]
Personal	.27	(.003)	.09	45.00 [b]
Tobacco	1.23	(.24)	.49	2.32
Activities	.27	(.009)	.31	3.33

[a] $t = \dfrac{(X - Xi)\,(n/n + 1)^2}{O\bar{x}}$ (criollo standard error of the mean)

$df = 2$, $\alpha = .05$, tabular value = 4.303
$\alpha = .10$, tabular value = 2.920

[b] Reject at .05 level

$\chi^2 = 6.076$ (H_0 = mestizo site not different from criollo group)
$df = 7$, tabular value at .050 = 14.0671

the mestizo site proportion for any given category could fall into the *criollo* group given the range of variability in the *criollo* sample). Table 10.5 indicates that the mestizo site is significantly different (at the .05 level) from the *criollo* site in the class of Hispanic coarse earthenwares and in the groups of Furniture, Clothing, and Personal. If we are willing to admit the .10 level of significance, then the majolica and non-Hispanic European wares can be included.

Aboriginal ware, which might have been expected, on the basis of the Indian affiliation of the mestizo household, to have been a strong index of difference, is not highly significant. The range of aboriginal ware variability among the *criollo* sites in the sample allows the possibility of including a site with the mestizo aboriginal ware proportion.

Regardless of this statistic, however (which is linked to the amount of variability in the *criollo* sample), the colono-Indian pottery ratio (4.03) at the mestizo site indicates that this measure is a strong index of the site's Indian affiliation. The 4.03 ratio at the de la Cruz site is 3.87 times greater than the overall *criollo* colono-Indian pottery ratio of 1.036. It is clearly the most sensitive index of Indian influence on the material assemblage.

Another index of difference between the two groups is in the ceramic tableware categories, both Hispanic and non-Hispanic. This may reflect differential access to imported wares, as well as different functions of ceramics in the mestizo and *criollo* households (with less emphasis placed on tablewares at the mestizo site).

It appears from the distribution of elements in these sites that the artifact group level is not statistically sensitive to *criollo*–mestizo differences. On the class level, however, differences are reflected in the categories of utilitarian ceramics and also in the category of tableware ceramics. The very low Arms and Tobacco group values (see Table 10.5) suggest that material evidence for male-related activities has a distinct distribution at the mestizo site, but the small size of the sample and the fact that the mestiza Maria de la Cruz was a widow make these results inconclusive.

Clearly, the most significant distinctions between the mestizo site and the *criollo* group are in foodways-related areas. This is supplemented and supported by the zooarcheological record (see Chapter 8). Table 10.6 shows the mean and variability values of general faunal categories from a three-site *criollo* sample compared with the mestizo site values. The *t* test indicates that there are certain significant distinctions between the two groups; that is, the mestizo site could not be included in the *criollo* group range, given the level of variability within the *criollo* group. These distinctions occur in all categories of wild, nonmammalian fauna. Although the mestizo and *criollo* inhabitants made a similar use in the diet of both wild and domestic mammals, the mestizo site inhabitants used wild birds, aquatic reptiles, fish and sharks, and commensal species in a manner that differed significantly from the *criollo* sites.

We may conclude that in the case of eighteenth-century St. Augustine ethnic distinctions are most apparent in the archaeological remains in the area of foodways practices. This is not unexpected, since subsistence practices and foodways have been widely recognized as one of the most characteristic and conservative aspects of group identifications (see Cumbaa 1975; Langenwalter 1980:103; Reitz 1979).

The nature of the mestizo assemblage's divergence from the *criollo*

TABLE 10.6
Comparison of Mestizo Faunal Assemblage with Criollo *Group Faunal Assemblage*[a]

Faunal group	Criollo $\bar{X}$[b]	$(O\bar{X})$[c]	Mestizo value	t value
Domestic mammals	81.8	(7.70)	74.8	.79
Wild terrestrial mammals	11.7	(5.49)	1.9	1.55
Wild birds	.4	(.06)	1.5	15.44[d]
Aquatic reptiles	.3	(.06)	6.8	93.96[d]
Fish and sharks	5.5	(.09)	14.6	87.50[d]
Commensals	.2	(.01)	.3	8.66[d]

[a] Measured by biomass percentage.

[b] $O\bar{X}$ = standard error of the mean.

[c] Based on sites SA–7–6, SA–34–2, and SA–36–4 and Table 8.11.

$df = 2$, $\alpha = .05$, tabular value 4.303.

[d] Reject at .05 level.

sample's mean could also be accounted for by the low income level of the mestizo household. Conclusive statements regarding ethnic differentiation within the Spanish town must await additional non-*criollo* site excavation.

Differences in Hispanic and Anglo Assemblages

The preceding discussion has indicated that quantified material assemblages reflect such social distinctions as economic status and possibly ethnic affiliation within a single cultural system. A comparison of the general Hispanic pattern with that derived from contemporary Anglo-American sites in the same geographical region should therefore reflect differences in adaptation and tradition between these two distinct cultural systems. Such demonstration should eventually lead to methods for archaeologically distinguishing cultural systems in undocumented situations.

Certain differences between the Hispanic pattern and the Anglo pattern have already been noted, such as the far greater proportion of the Spanish assemblage composed of ceramics, particularly aboriginal ceramics. This was discussed in terms of Spanish–Indian interaction patterns, Hispanic ceramic traditions, economic factors, and cultural foodways traditions. Other distinctive features of the Hispanic assemblage are evident in the comparison of Hispanic site material distributions with those of British sites and the Carolina Pattern (see Table 10.7). The Carolina Pattern is a quantified artifact distribution proposed by Stanley South as reflecting the range of activities associated with eighteenth-century British colonial occupation (1977:Ch. 4). The sensitivity of the Carolina Pattern in both monitoring British colonial occupation and distinguishing non-British colonial occupation can be examined more closely in Table 10.7, which compares the distribution of activity groups at three British communities with the eighteenth-century St. Augustine community distribution. The British colonial communities include Brunswick, North Carolina (South 1977); Camden, South Carolina (Lewis 1976) and Frederica, Georgia (Honerkamp 1980). Both Frederica and Camden were, like St. Augustine, essentially domestic communities on the frontier. Both were excavated with an emphasis on entire lot sampling, rather than upon the structural areas.

The excavations upon which the Carolina Pattern were based concentrated upon structures and the areas immediately surrounding them (Honerkamp 1980:262–263; Lewis 1976:111; South 1977:88–92). The St. Augustine excavations included one site with a structure-intensive sample (SA–7–5), one with no sampling of the structure itself (SA–36–4), and two with extensive sampling of both the back lot and structural areas (SA–7–4, SA–16–23).

TABLE 10.7
Comparison of St. Augustine Assemblage with British Community Assemblages[a]

Artifact group	Carolina Pattern[b] predicted range	Carolina Pattern (Brunswick) mean	Camden[c]	Frederica[d]	British $\bar{X}$	St. Augustine
Kitchen	47.5–78.0	63.1	71.4	57.3	63.9	88.08
Architecture	12.9–35.1	25.5	22.0	25.9	24.5	9.15
Furniture	.0– .7	.2	.08	.08	.1	.08
Arms	.0– 1.5	.5	.2	.9	.5	.35
Clothing	.0– 8.5	3.0	.3	.6	1.3	.70
Personal	.0– .6	.2	.0004	.06	.08	.21
Tobacco	.0–20.8	5.8	3.1	12.7	7.2	1.04
Activities	.1– 3.7	1.7	2.8	2.3	2.2	.24

[a] $x^2 = 26.22$, $df = 7$, $\alpha = .001$, tabular value = 24.322
[b] South 1977:119.
[c] Lewis 1976.
[d] Honerkamp 1980.

Table 10.7 shows that the Camden and Frederica assemblages fall within the predicted ranges of the Carolina Pattern in all categories and that St. Augustine falls outside this predicted range in the categories of Kitchen and Architecture. The Architecture group, furthermore, is the most variable among the Spanish sites (as measured by the coefficient of variation) and much less variable among the British communities sites. It is suspected that the variability level of the Architecture group in the St. Augustine sample is due at least in part to the sampling strategies employed there. The Architecture group, because of the de facto nature of its artifact deposition (Schiffer 1976:33; South 1977:88–92) through structural abandonment or demise, should be a more sensitive index to sampling variability than are the other activity groups. The single Spanish site that was sampled intensively around and in the structure (SA–7–5) had an Architecture proportion of 17.7% (see Table 10.1), placing it well within the Carolina Pattern range, and close to the Carolina Pattern mean. This was despite that the structure was of masonry and stone. The other lots with masonry structures that were sampled extensively yielded architectural values of 4.4%, 5.5%, and 9%. This suggests that the Architecture group monitors not only the architectural traditions at sites but also the sampling strategies employed there. Clearly, the Kitchen and Architecture groups reflect the most obvious differences between the Spanish and British material assemblages (as measured by the group means).

Certain other Hispanic artifact groups also show distinct divergence from the Anglo pattern, although they do fall within the Carolina Pattern range. This can be seen both in the differences between the overall group means (Spanish versus British) and in the differences between the Spanish community mean and the means for each British community (because the Carolina Pattern predicted range starts at zero in these categories,

even the presence of one artifact in the Hispanic group would constitute inclusion). The most marked distinctions are in the Tobacco and Activities groups, which fall near the bottom of the Carolina Pattern range. These groups diverge strongly from both the overall British mean and from each British community mean.

Tobacco smoking is clearly an area for differences in cultural tradition and preference. The smoking of tobacco in pipes was apparently not popular among eighteenth-century Spaniards in any context, a fact noted widely in St. Augustine (Beidelman 1976; Deagan 1976; Shephard 1976), and outside of Florida (Council 1975; Willis 1976). The Tobacco group level in Pensacola (see Table 10.3) is 1.5%, which is higher than the group mean of .94 in St. Augustine but considerably lower than the Tobacco group proportions at any of the British communities.

The low Activity group proportion, which is highly consistent across the Spanish sites apparently reflects a smaller variety of activities taking place in the domestic sites of St. Augustine than in contemporary Anglo sites. The Pensacola Activity group level of .33% is the same as that for St. Augustine. This may also be related to the impoverished economic circumstances of the colony, as well as to the almost exclusively military composition of the town (see Chapter 3).

All of the remaining Hispanic group means—Furniture, Arms, Clothing, and Personal—approximate the group mean for at least one of the British colonial communities. This is also true for Pensacola, suggesting that distinctions between Anglo and Hispanic cultural groups are not reliably reflected in the material assemblage by those artifact categories. Possibly these reflect general responses to the circumstances of eighteenth-century colonial life in the Southeast.

In summary, the best index of difference between Hispanic and Anglo assemblages is found in the Kitchen artifact group. In the Hispanic sites, this group overwhelmingly dominates the assemblage and is itself dominated by ceramics. The colono-Indian pottery ratio is also a sensitive indicator of differences both between the Hispanic and Anglo sites and between sites within the Hispanic community, reflecting *criollo* versus mestizo site affiliation. The strength of the Kitchen group in this sense is not unexpected, considering the importance and conservatism of foodways in cultural groups (Cumbaa 1975; Reitz 1979). The factors underlying differences in the Anglo and Hispanic Kitchen group patterns include not only their different foodways traditions (Cumbaa 1975; Reitz 1979) but also the nature of European–Indian interaction in both groups.

The Architecture group also serves as an index of difference, obviously because of the different building construction methods used in the Anglo and Hispanic sites of this study. The Hispanic Tobacco and Activities groups are also very distinct in their composition from the Anglo assemblages. Although the low incidence of pipe smoking appears to be a

distinctly Hispanic trait, the overall low Activity group level in the Spanish towns may also be due to the economic and demographic conditions in the Florida colony.

Spatial Distribution of the Hispanic Assemblages

THE GENERAL PATTERN

Throughout the preceding chapters it has been noted that a highly patterned spatial distribution of settlement elements was present at the eighteenth-century sites of St. Augustine. This is seen both in the plan of the community itself and in the distribution of elements within the house lots (see Chapters 3, 5, and 6). These patterned distributions furthermore have been characteristic of St. Augustine since the sixteenth century (see Deagan 1980, 1982b).

To summarize briefly, the town's layout was that of a grid plan of streets, arranged around a central plaza, which did not appear in the actual center of town until 1598 (Deagan 1980, 1982b). On the plaza were important residences and public buildings, and near the plaza were merchants and high-status households of the community (see Chapter 3). St. Augustine shared this pattern with other Hispanic towns throughout the New World (Zendegui 1977).

Households within the town also exhibited patterned spatial organization. Houses fronted directly upon the street, with a wall or fence along the lot line. Entrance from the street was generally to the side of the structure through the wall into a *loggia*, or covered and floored patio area (see Manucy 1962). Structures themselves were typically based on a two-room rectangle, with a *loggia* on the south side to catch the prevailing southeasterly winds in summer and sunshine in the winter (Manucy 1962:55). Since none of the Hispanic houses had fireplaces, the *loggia* and the absence of openings in the north walls were important features for comfort in the frequently chilly north Florida winters.

Often, a detached kitchen was present behind the house structure, at a distance of about 15 m from the street edge (the four such detached kitchens located archaeologically on eighteenth-century sites were at distances of 12.8 m de Mesa site [Deagan 1977b]; 13.5 m, Fatio site [King and Zierden 1980]; 15 m, de Hita site; 15.2 m, de la Cruz site).

Barrel wells were always present in these lots, most typically near the kitchen at 12–15 m from the street edge. Wells have also been located considerably farther back in the lot (Ganzel 1976; Jones n.d.; Shephard 1976), possibly for convenience in tending to gardens and livestock. Since these wells had a lifespan of 15 or so years (as estimated on the basis of the TPQs for the construction pits and well fills), there are usually several located within each site. These are often directly adjacent to one another, since the wood of the barrel casings apparently rotted at the water level after a certain time because of fluctuations in water tables. Since these

wells are generally not deeper than 2 m, construction of a new well may have been more energy-efficient than cleaning and repairing an old one.

A number of activities are known to have taken place in the household lots, including gardening—the major portion of fresh vegetables for the population came from the household gardens—animal husbandy, some cooking, and trash disposal see Chapters 3 and 6; see also Griñan 1756 in Scardaville and Belmonte 1979).

Trash disposal occurred in a fairly regular manner within the eighteenth-century house lots. It has been noted throughout preceding chapters (Chapters 4, 5, and 6) that a typical mode of trash disposal was in discrete, excavated pits. In every excavation 40–50 such pits of varying depths have been located, ranging in diameter from about 50 cm to over a meter. In some cases a layer of earth was placed over the pit's fill, and in others—particularly the very large pits—trash was apparently allowed to pile up and then spread out over the pit's top into the surrounding area.

In the three extensively excavated household lots of St. Augustine used in this study (SA–7–4, the de Hita site; SA–16–23, the de la Cruz site, and SA–36–4, the Ponce de León site), it is evident that such purposeful trash disposal was most intense away from the house structure (see Outlaw 1975). Trash deposits were typically located near kitchens and wells. The latter distribution occurred at least in part because the abandoned wells were a convenient and widely used receptacle for household refuse.

Sheet deposits containing refuse also occur on Hispanic sites, but they differ in several respects from those noted on the contemporary British sites used to develop the Brunswick Pattern of refuse disposal (see South 1977:47–80). Before these differences can be explored, however, it is necessary to clarify certain peculiarities in the archaeological formation process of St. Augustine's sites. These processes, introduced in Chapter 4, greatly affected the integrity of the archaeological deposits in these sites, and consequently our interpretations of them.

FORMATION PROCESSES DISTURBING SHEET DEPOSITS

The major distinctive feature of the sheet deposits on St. Augustine sites is that they are almost always mixed with later nineteenth- and twentieth-century materials and are disturbed to the lowest levels of the deposit. All sheet deposits are excavated by 10- or 15-cm levels (within naturally occurring zones), and only rarely is the lowest increment resting on sterile soil free from such disturbance.

There are two possibilities to account for these features. Either the Spanish-period inhabitants tended not to scatter refuse on the ground, or the Spanish sites have been subjected to intensive and extraordinarily active disturbance processes. Although probably both of these suggestions are to some degree correct, we can demonstrate that the latter possibility

did in fact occur (see later in this chapter). Unfortunately, these disturbances render the material from such deposits inappropriate for processual inquiry. Throughout the archaeological research program (and this book), only that material that we can assert with confidence was deposited by the group in question was used to help answer those questions (in this case, Hispanic inhabitants of the town between 1700 and 1763). Although these acceptable materials represent only a small portion of the site materials—between about 20% and 35%—the use of materials of uncertain origin to test hypotheses about First-Spanish-period adaptations has been considered unacceptable.

Why such a disturbed sheet deposit is the norm in St. Augustine is an important question in itself in terms of formation processes. It is also important to understand these processes in order to use the sheet-deposit materials for distributional or other kinds of analyses. This is a problem faced by most archaeologists, particularly those working in urban sites. In St. Augustine, there are several documentarily supported possibilities of why extensive ground disturbance should have occurred.

1. Length and intensity of occupation. Sites in the south half of St. Augustine have been occupied continuously since about 1570, with numerous changes in occupants (see Chapter 2). In the northern portion of the town most of the sites have been occupied continuously since about 1670, also with many occupant changes (see Chapter 3). Families had gardens, animals, and children; they rebuilt or added to structures; they made fires, put in fences, and dug holes for a number of possible purposes. In a restricted space over 300–400 years, these activities surely resulted in extensive disturbance both to sheet deposits and to earlier buried features.

2. Natural and cultural catastrophes. The Spaniards in St. Augustine were subjected to numerous and repeated catastrophes that greatly altered the ground upon which they lived. The sites occupied in the sixteenth century experienced destruction and burning at the hands of Francis Drake in 1586 and fire and flood in 1599 (see Chapter 2). Attacks and raids occurred in 1686 and 1702, the latter of which destroyed the town and required rebuilding (see Chapter 2). This rebuilding (as discussed later in this list) also contributed to the disturbance of earlier deposits. The departure of the Spaniards and the arrival of the English in 1764 was a demographic catastrophe, and one that also prompted major rebuilding and disturbance activities in individual lots (see Leitch-Wright 1975; Manucy 1962:34–40). The same occurred again in 1784, when the Spaniards returned to Florida. Different trash-disposal practices that might have been characteristic of these various groups would have also complicated the archaeological situation on the St. Augustine sites.

3. Architectural tradtions of colonial St. Augustine. Rebuilding was

implemented following major disasters, such as Moore's raid of 1702, and also intermittently as need arose in individual lots. These practices contributed to the alteration of sheet deposits in the lots, particularly in the eighteenth and nineteenth centuries, when tabby and coquina construction was used (see Chapter 4; see also Manucy 1962). Both types of buildings in the eighteenth century were placed upon footings constructed by digging a trench in the desired shape of the structure, .50–1.3 m in thickness, and then packing it with shells or tabby. Floors were also made of tabby in the sequential method described in Chapters 4 and 6. At intervals of perhaps 15 years (as based on TPQ comparisons of sequential layers) a layer of earth was taken from the surrounding lot area and spread over the old floor 12–15 cm thick, as a leveling and elevation-raising layer, and then tabby was poured over it. This was either to replace a worn or broken floor or to raise the interior level of the house to the street grade. These processes surely caused considerable disturbance to the surrounding ground, and the frequent presence of masonry rubble and plaster-flecked soil horizons across these sites (usually 10–15 cm thick) suggests that, following demolition or rebuilding activities, the lots were often graded, thus further mixing the sheet deposits.

4. Gardens and animals. Within their house lots both Spanish and British colonists also kept livestock and had gardens (see Griñan 1756 in Scardaville and Belmonte 1979; Leitch-Wright 1975; Reitz 1979). Animals such as chickens and pigs rooting and foraging through the lot and the cultivation of vegetables and numerous citrus trees must surely also have contributed to the alteration of sheet deposits in the lot areas.

5. Nineteenth-century activities. The nineteenth-century occupation of St. Augustine contained two "boom" periods related to the development of tourism in Florida (see Graham 1979). This resulted in considerable rebuilding, remodeling, and, in the late nineteenth century, the installation of underground sewer and water lines (Graham 1979). Although the population and construction activities have steadily increased through time in St. Augustine, the size of the occupation unit—the lot—has not (see Manucy 1977, for a discussion of the contemporary lot sizes in the town in relation to the 1763 lot size). In fact, St. Augustine itself did not expand ouside its colonial boundaries until the late nineteenth century (Graham 1979).

All of these disturbance factors are underscored by the fact that the entire archaeological sheet deposit in the eighteenth-century portion of the town is rarely deeper than 1 m, and more often .5–.75 m thick. This .5–.75 m reflects continuous occupation from about 1680 to 1982, as well as all of the construction, destruction, reconstruction, cleanup, trash disposal, drainage ditches, livestock keeping, wells, and gardening activities during that time.

For all of these reasons, and probably others that we have not been able to determine, it is not surprising that the sheet deposits within the colonial town limits are extensively mixed and disturbed. This is a problem at all sites in varying degrees and is probably most severe at urban sites with long-term, multicomponent occupation and little or no spatial expansion.

The problem for archaeologists lies in the use of such material, since a very large portion of the remains recovered from such sites cannot be confidently used to test hypotheses or answer questions about issues related to specific times and occupants. Neither can this material be confidently used for distributional studies, such as that carried out by South to define the Brunswick Pattern of refuse disposal (1977). This is because we cannot be certain in St. Augustine of who actually deposited a particular item in a sheet deposit (Spaniard or Englishman), or when and where it was initially deposited.

If, however, we are willing to admit a less than strong confidence in the data, adjustments might be made to the sample in order to obtain a general idea of its distribution in space. Since the sheet deposits contain both items that are known typologically to have been deposited before the end of the First Spanish period (1763) and also items that are known to have been deposited after the First Spanish period (TPQ of post-1763), it is possible to devise an adjustment factor to weight the bulk of the material recovered in sheet deposits. Most of that material (nails, glass, iron objects, San Marcos pottery) could have been discarded during either the First-Spanish-, British-, or Second-Spanish-period occupations (see Zierden 1981, for a demonstration of the role of San Marcos pottery in the Second Spanish period of 1784–1821).

In order to get an idea of what proportion of the undatable material in the sheet deposits might have been deposited during the first Spanish period, a simple adjustment ratio was devised. The ratio is based on:

$$\frac{\text{number of known pre-1763 artifacts}}{(\text{number of known pre-1763 artifacts}) + (\text{number of known post-1763 artifacts})}$$

This was computed for each level within each sheet deposit for three sites, using 127 proveniences in all. To arrive at the adjusted number of artifacts possibly deposited during the First Spanish period, all items of uncertain temporal origin were multiplied by the preceding ratio. This was then added to the number of known pre-1763 artifacts in that provenience. Thus: (all artifacts of unknown date × adjustment ratio) + known First-Spanish-period artifacts = adjusted number of artifacts of possible First-Spanish-period origin.

Nails were computed separately, due to the probability of different, de facto refuse patterns for that artifact category, and animal bone was also computed separately, both because it was weighed rather than counted

and because food refuse, as more odious, might have been purposefully deposited even farther away from the living areas (see South 1977:47–48).

Figures 10.6 through 10.14 show the resulting distributions of sheet-deposit materials at three sites. Discrete analyses of artifact classes were not carried out, because of the unreliability of the sample's origin and the grossness of the measurement. The general distribution of remains, however, should be of interest for general comparative purposes.

Two of the sites used, SA–7–4 and SA–16–23, included both structures and back lots in their excavated areas. The other site, SA–36–4, did not include a structure, primarily because the structure was covered by a

heavily traveled contemporary street. The probable location of the structure is indicated on the map, however, based upon the known spatial relationships between houses and wells in eighteenth-century St. Augustine and also upon the location of posts found in the street by city road crews in 1980.
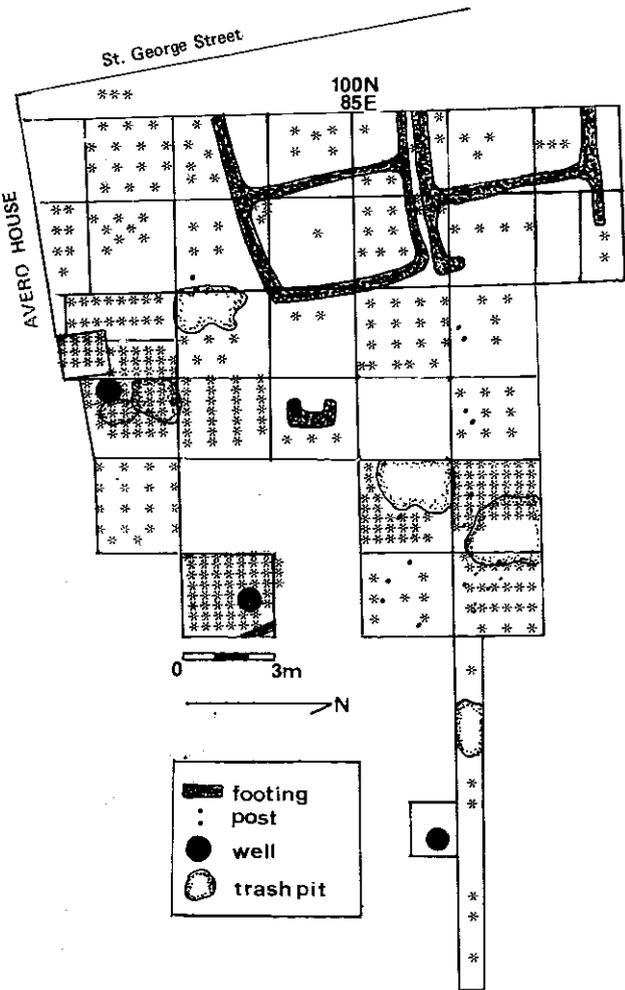
FIGURE 10.6. Distribution of artifacts in sheet deposits, site SA–7–4. One star represents 1–50 artifacts (excluding nails).
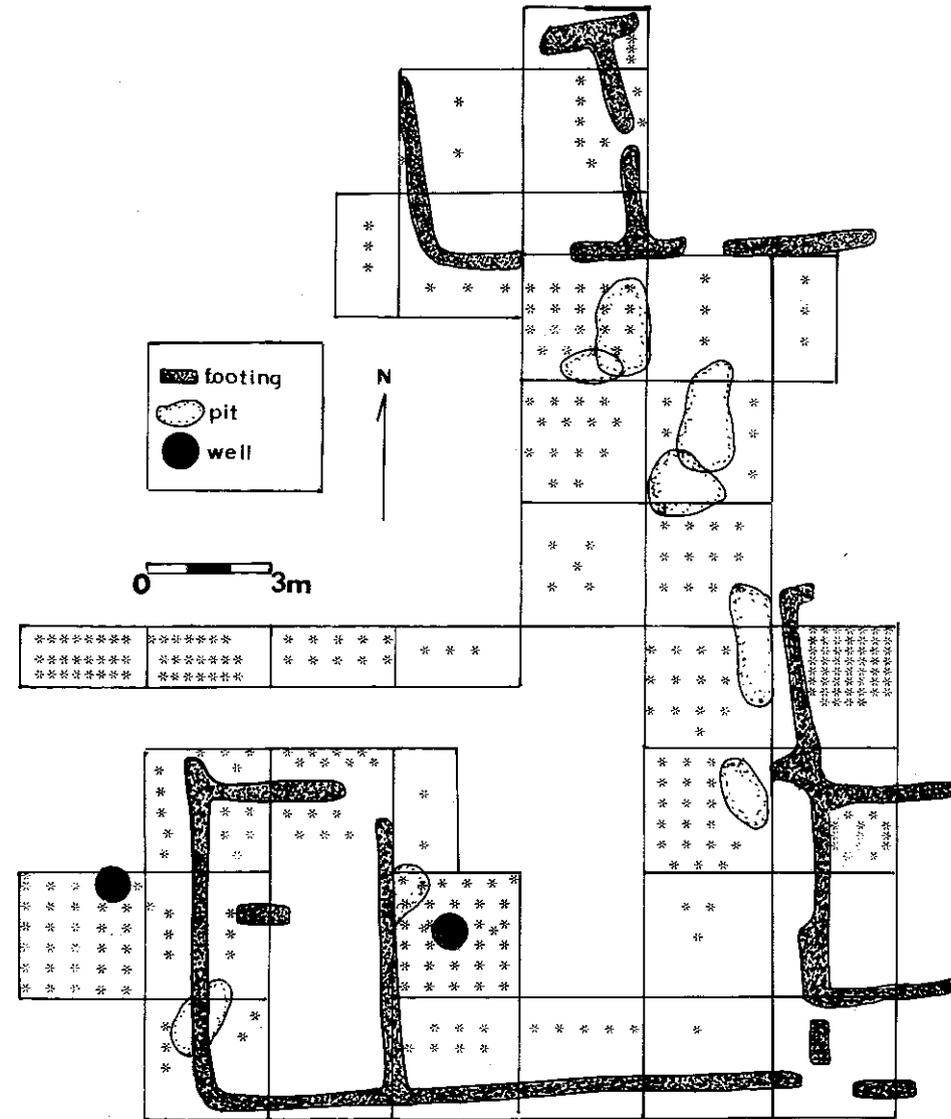
FIGURE 10.7. Distribution of artifacts in sheet deposits, site SA–16–23. One star represents 1–50 artifacts (excluding nails).

RE 10.8. Distribution of artifacts in sheet deposits, site SA–36–4. One star represents 1–50 artifacts (excluding

FIGURE 10.9. Distribution of faunal remains in sheet deposits, site SA–7–4. One star represents 50 gm of bone.

Some material is present across the sites in most areas. It is most heavily concentrated around wells and kitchen areas, rather than adjacent to the structures (see Figures 10.6, 10.8, and 10.10). At the mestizo site, some deposits are adjacent to the structure walls, but it should be noted that in both of the structures, the deposits occur in what was a floored *loggia* area (MacMurray 1975). These deposits were likely to have been part of a flooring or leveling surface. Certainly, the presence of the most intensive deposits inside the structure is the result of such flooring activity. Otherwise, the most concentrated refuse is away from the living structure in the back of the lot, particularly around the kitchen area. Both *criollo* sites also contain the most concentrated debris back from the structure in the vicinity of kitchen, well, and large trash pits.

The distribution of bone in the sheet deposits conforms in general to the distribution of artifact refuse. This is somewhat more difficult to assess, however, since a portion of the bone weight data is no longer available (the units for which this applies are marked with a question mark on Figures 10.9 and 10.10). Faunal remains are most concentrated around wells and toward the rear of the household lots. At the de la Cruz site the densest concentration of bone, like artifacts, was found inside a structure, probably deposited as part of the floor-laying process.
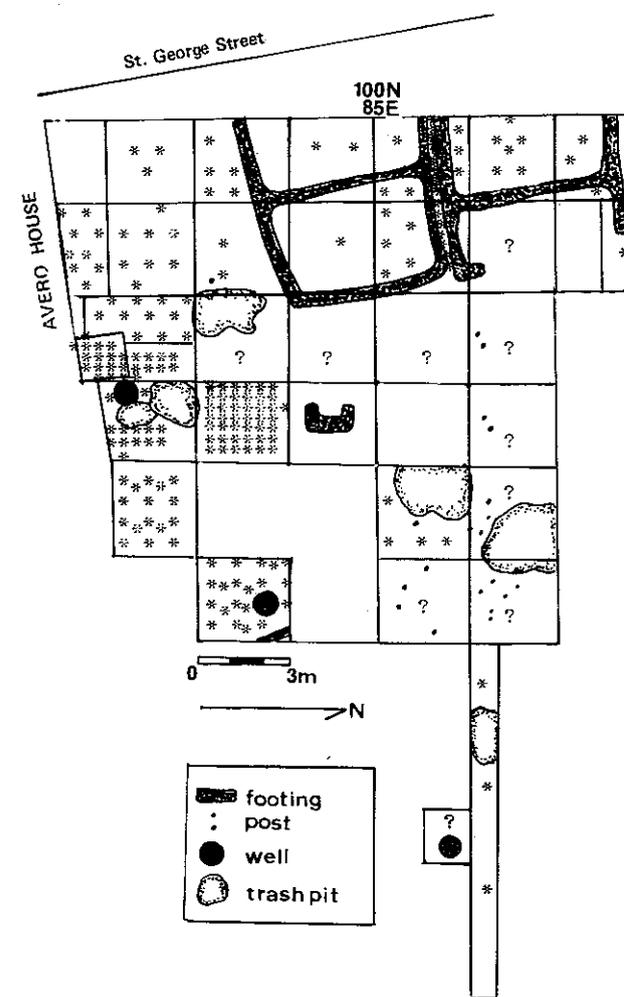
One exception to this pattern is present at site SA–7–4, the de Hita site, where 1156 gm of bone were deposited between the two houses on the site. One was owned by de Hita and the other by his neighbor, Gonzales (see Chapter 5). Since these walls were only about 20 cm apart, there were obviously no doors or windows in them. The deposition of a relatively large amount of bone in this small enclosed space is an exception to the overall pattern of deposition in pits and away from houses. It is not consistent with the artifact deposits in that same space, which consisted of only 135 artifact items (see Figure 10.6).

The distribution of nails in the sheet deposit also does not diverge from the artifact and bone distributions. Their presence is not intense at any

site, undoubtedly because of the masonry construction methods used in St. Augustine. Architectural materials are believed to have been transformed into the ground through abandonment or destruction processes more frequently than other artifact classes, which were probably associated more frequently with discard or loss. For this reason, the distribu-
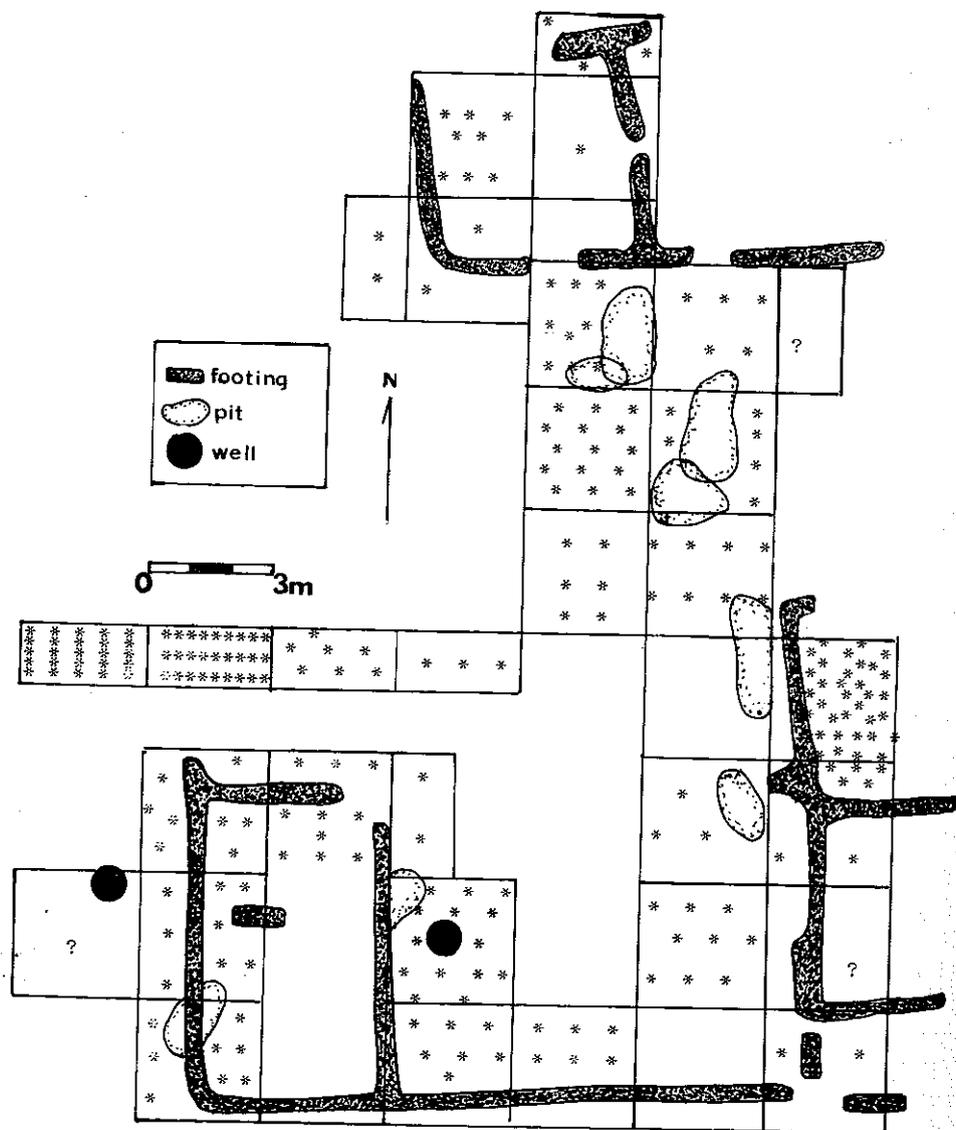

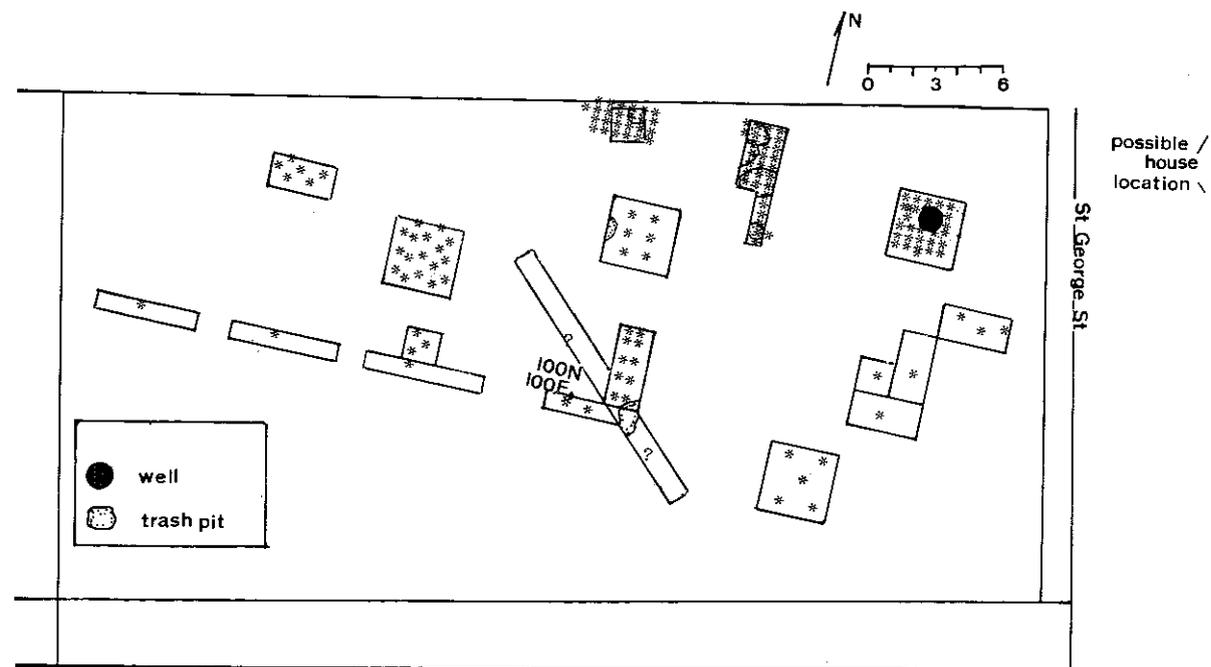FIGURE 10.10. Distribution of faunal remains in sheet deposits, site SA–16–23. One star represents 50 gm of bone.

FIGURE 10.11. Distribution of faunal remains in sheet deposits, site SA–36–4. One star represents 50 gm of bone.

tional correspondence of nails to other artifact categories suggests that postdepositional disturbance processes may have consistently affected all categories of material remains, regardless of their original mode of deposition.

The data contained in Table 10.8 further support the contention that nails were not as frequently discarded as they were "abandoned." At all of the sites the number of nails recovered from sheet deposits greatly outnumbered those from closed contexts (trash pits, postmolds, abandoned wells, etc.), where artifacts were presumably purposefully discarded. This nail occurrence pattern is not found for the other artifact groups. The distribution of bone in particular is opposite that of nails: There is a much larger proportion of bone weight from the closed contexts than from the sheet deposits, and the nonnail artifact group is nearly evenly distributed between sheet deposits and closed contexts. When we consider that the sheet deposits themselves constitute roughly five times the area incorporated by the closed contexts, we must conclude that there was a purposeful and preferential placement of refuse, particularly bone refuse, in pits and other repositories. Clearly, trash disposal at the Spanish sites was nonrandom both in its horizontal distribution and in its depositional contexts.

The patterns in evidence at the Hispanic sites differ from the Brunswick Pattern of refuse dispoal, which was documented by Stanley South (1977) at Brunswick, North Carolina, and indicated that "on British-American sites of the 18th century a concentrated refuse deposit will be found at the points of entrance and exit in dwellings, shops and military fortifications [p. 48]." Such "adjacent secondary refuse" can be distinguished from "peripheral secondary refuse" away from structures by the larger amount of bone in the latter. If cross-cultural patterned differences in refuse-disposal practices can be established and verified, the Brunswick Pattern generalization can be expanded to a general principle of ethnic identification in the archaeological record, thus making the

question of patterned trash disposal of considerable interest in historical archaeology. The comparison of the St. Augustine data with the Brunswick Pattern data, however, does not give us any conclusions about such cross-cultural differences. If the St. Augustine sample were narrowed to an area of a few excavation units around the structures, it would appear
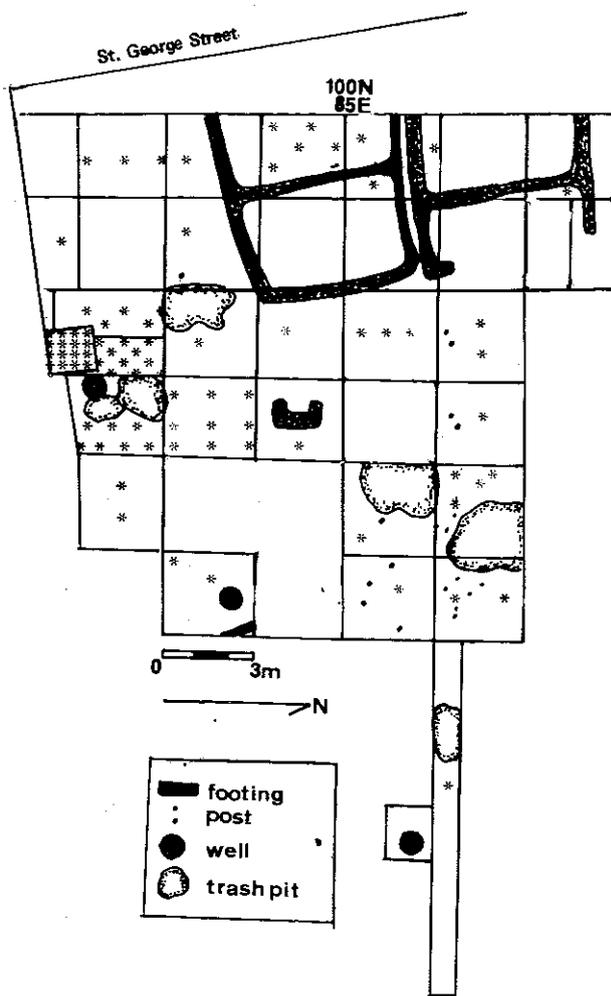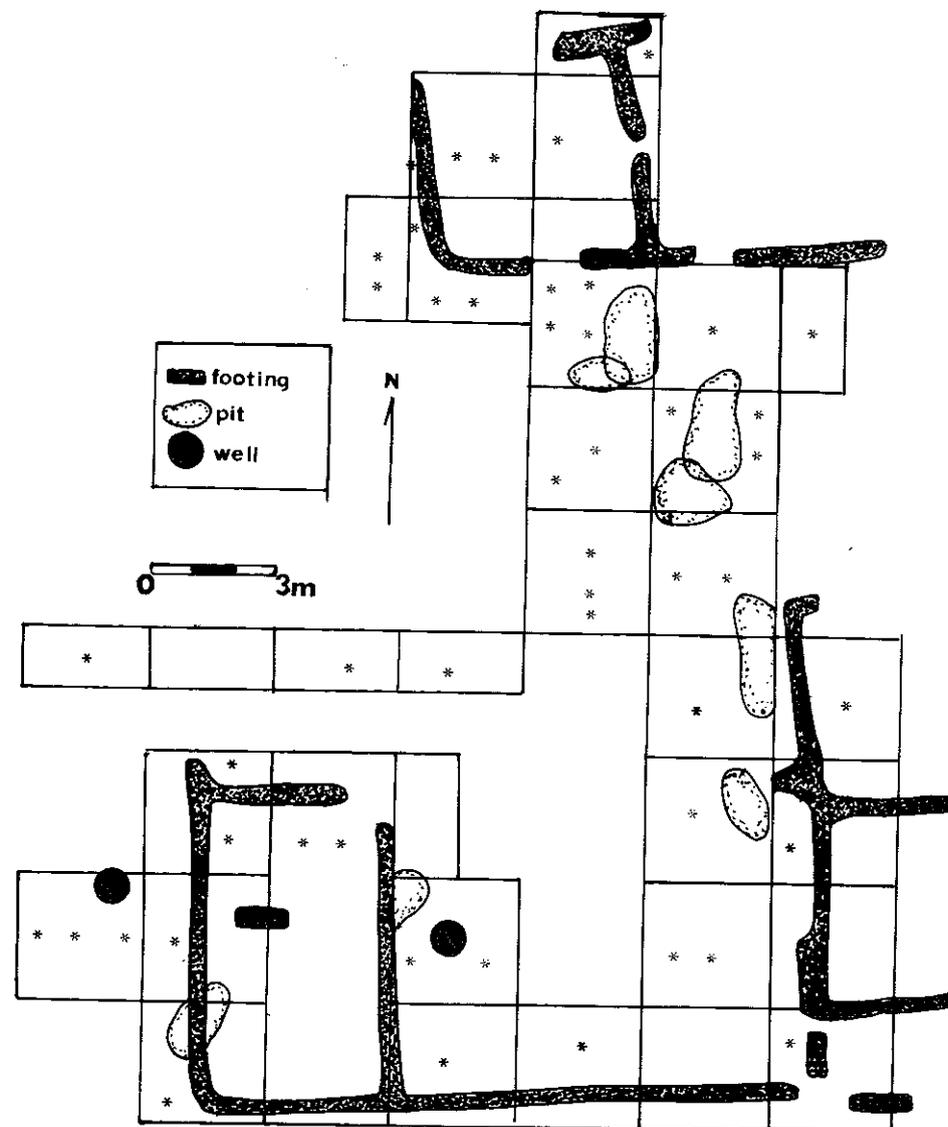

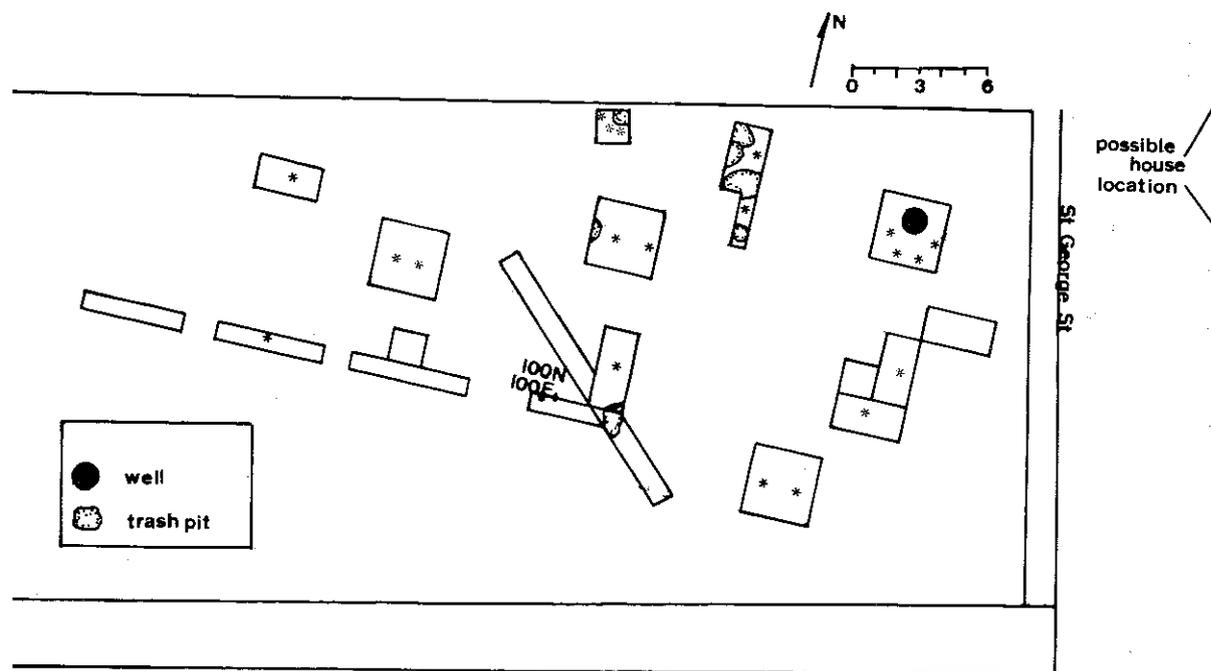FIGURE 10.12. Distribution of nails in sheet deposits, site SA–7–4. One star represents 1–50 nails.

FIGURE 10.13. Distribution of nails in sheet deposits, site SA–16–23. One star represents 1–50 nails.

FIGURE 10.14. Distribution of nails in sheet deposits, site SA–36–4. One star represents 1–50 nails.

TABLE 10.8

Comparison of Closed Context and Adjusted Sheet Deposit Assemblages[a]

Site	Artifacts (excluding nails)		Nails		Bone (gm)
	Number	Percentage	Number	Percentage	
SA–7–4[b]					
Closed contexts	6207	54.5	586	20.8	NA
Sheet deposits	5179	45.5	2231	79.2	3111
Total	11,386		2817		
SA–16–23					
Closed contexts	9598	45.2	417	17.9	2864[c]
Sheet deposits	11,631	54.8	1910	82.1	2444
Total	21,229		2327		
SA–36–4					
Closed contexts	5069	38.2	529	42.4	21,872
Sheet deposits	8215	61.8	717	57.6	8302
Total	13,284		1246		

Site	Total area excavated (square meters)	Total site artifacts	Artifacts per square meter
SA–7–4	117.00	11,386	97.3
SA–16–23	243.00	21,229	87.4
SA–36–4	100.75	13,284	131.9

[a] Site SA–7–5 is not included because the assemblage was predominantly from the interior of a standing structure. Thus sheet deposits were not present.

[b] Based on 1975 excavations only (Shephard 1976).

[c] Based on 1973 excavations only (Cumbaa 1975:Table 5; Deagan 1974).

that the Brunswick Pattern in fact existed in Spanish Florida sites. Excavation of the areas farther back in the lots indicates, however, that the heaviest concentrations of refuse occur as secondary peripheral refuse, particularly in pits and wells.

The study of eighteenth-century British-American sites at Frederica, Georgia, revealed a pattern of refuse disposal similar to that at St. Augustine (Honerkamp 1980:262–274). Honerkamp suggests that both sampling differences between Frederica and North Carolina and the extra-domestic activities taking place at Frederica sites may account for divergences in the refuse-deposition patterns at the two communities.

The ecological setting of a community also appears to have been a critical factor in the disposal of trash. Both Frederica and St. Augustine were in climates warmer than that of Brunswick, and both were coastal settlements. Diet was also probably influential, particularly in the Florida colony, where seafood accounted for a large part of the diet. Disposal of food bone on the ground and near the house would quickly result in a very unpleasant situation in St. Augustine—a circumstance probably already well known to people of a Mediterranean background, as were the early St. Augustine colonists (see Chapter 2).

It is nevertheless evident that there are patterned differences between the British trash-disposal practices in North Carolina and the Hispanic practices in St. Augustine. The underlying reasons for this—be they ecological, dietary, or the result of cultural attitudes derived from ecological factors—must await the availability of additional compatible data.

Summary

This chapter has documented the regularities in material patterning of eighteenth-century Spanish St. Augustine and has shown that these regularities also describe at least one other contemporary Hispanic community. This Hispanic pattern is significantly different from the British colonial material patterns, as evident through the Carolina Patterns, in the towns of Camden, South Carolina, and Frederica, Georgia. The distinctions between the Hispanic and Anglo assemblages are most evident in the Kitchen and Architecture groups. The former reflects differences in

cultural foodways, Old World material traditions, the nature of European–Indian interaction, and the demographic and economic makeup of the communities. The Architectural group apparently reflects not only the different construction materials used in St. Augustine and the British colonies but also the different sampling strategies used at the sites.

Variability among the Hispanic sites in the St. Augustine sample was linked to documented economic and social attributes. It was indicated that the material assemblage clearly monitors the economic status of households, as measured by income, by the proportion of nonaccessible and "Hispanic"-affiliated items in the assemblage.

Ethnic differentiation within the Spanish town was also represented in the material assemblage, although somewhat tenatively because of the presence of only a single non-*criollo* site in the sample. This mestizo site, however, was clearly distinguishable from the *criollo* group in its very high proportion of aboriginal ceramics (especially as measured by the colono-Indian pottery ratio), its very low proportion of Hispanic-affiliated items, its diet, and certain socially visible areas (Clothing and Personal artifact groups). Although distinctions are clear in both foodways-related areas and areas that functioned as social identification, the overall differences between the mestizo assemblage and the *criollo* group were not as significant as those between the overall British and Hispanic patterns.

Horizontal distributions of materials at the Hispanic sites revealed badly disturbed sheet deposits at all sites, due to numerous cultural factors. Adjusted distributions, however, demonstrated a preference for the distribution of bones and artifacts in pits near wells and kitchens and their transformation into the archaeological record through discard. The transformation of architectural elements was apparently the result of structural abandonment or demise; however, the nail data occurred predominantly in the distributed sheet deposits and thus were not good locational clues.

The following chapter will assess the results of material pattern quantification in conjunction with historical and zooarchaeological data and provide an insight into what we have learned beyond the artifacts from the archaeology of Spanish St. Augustine.

11

Archaeology, History, and Anthropology in Spanish St. Augustine: What Have We Learned?

The articles left in the ground by the inhabitants of eighteenth-century St. Augustine have told us about mestizos, Indians, *criollos*, and Spaniards in the colonial community. Such tangibles as their diet and foodways, their architecture, their burial practices, and the articles that were used from day to day have been revealed through archaeology. More importantly, however, when these details are organized to reveal patterns in the community, and when the patterns are integrated with the data of social history and anthropology, we learn things that could not have been studied through any one of those disciplines alone. Through historical archaeology's integration of many sources of evidence, it has been possible to transcend the particular time and place focuses of eighteenth-century St. Augustine and gain insights into human behavior that are of general interest to archaeology, history, and anthropology.

Historical archaeology's great potential is its ability to simultaneously observe multiple contexts of behavior, both in the past and in the present (Schuyler's "spoken, written, observed and preserved" contexts, 1976). Nearly any problem in the study of a historic population, such as foodways, can integrate data from all of these contexts. We have written accounts of what people ate, and what they thought about it, in colonial St. Augustine (Chapters 3 and 8). We also have access to ethnographic observations of foodways in analogous Hispanic communities (such as Foster 1960 or Diaz 1966). In some cases, oral history sources can provide information about how things were "in the old days." Most importantly, however, we have access to foodways practices through archaeology. The archaeological evidence has been the critical organizing baseline in the

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