

Research Design

Introduction

In order to produce useful research from a historic site it is necessary to see it within its cultural and historical context. Those aspects of the context of the Riseing Sun Tavern which have been selected for interpretation and reference here are those that are expected to exert the most influence on the material culture of the various occupants of the site. Conversely, it is those elements of the creating culture about which we can expect to learn most when we study the archaeological remains at the site. A discussion of the background research pertaining directly to the site is given below, but it is appropriate here to note that we have tried to consider the site within economic and cultural networks of both large and small scales because individuals and communities existed within economic networks of several levels and scales.

During the colonial period and the first decades of the nineteenth century Delaware and indeed all new world colonies may fairly be regarded as "peripheral" in Wallerstein's terms (Wallerstein 1974), that is to say they extract surpluses that are transferred to the "core" areas which control and accumulate those surpluses. Whether or not the macro-scale economic cycles and transformations hypothesized by Wallerstein and others can be made relevant to local archeological contexts is another matter, but it should be noted that the examination of distribution and redistribution of surpluses is a viable theoretical mechanism for anthropological as well as economic and historical analyses. Braudel ([get dates]) emphasizes the importance of material conditions such as crop production and local market structures that condition larger processes, and it is also true that the material connections to the Eurorpean "core" are quite apparent in the archeological record (Paynter 1982:237). If rules of correspondence linking large-scale shifts in economic process directly and quantitatively to changes (or lack of change) in the material record can be established, then historical archeology can begin to make significant contributions to the understanding of these processes.

The issues are real and important, but the methodology to identify the effects of such models directly at the site level is only beginning to emerge. A broader view, both spatially and temporally is needed to provide sufficient processual contrasts, and Paynter's (1982) study of the Connecticut River Valley is an example of such a study at the regional level. He offers little guidance for site-specific research objectives and procedures such as might be applied at the Riseing Son Tavern, however.

Research Objectives

Relatively more modest research objectives were established for the work at the tavern site. Taverns performed important social and economic functions in the eighteenth and nineteenth century, including overnight accomodation, eating, drinking, formal and informal information exchange, business, etc. (Rockman and Rothschild 1984:112) within the economic spheres mentioned above. Both the spatial

configuration of the facilities at the site and the functional distribution of artifact classes were expected to differ from those found at private domestic sites. This expectation was held in spite of the fact that the wording of the Tavern Licenses issued in the late eighteenth century and early nineteenth century in New Castle County suggest that taverns were most commonly kept in the residence of the operator.¹ The public functions of the site would be expected to alter the site configurations sufficiently to represent a defineably different set of patterns. Rockman and Rothschild have compared the functional distribution of artifact groups between urban and rural taverns, testing the hypothesis that urban taverns supported the function of a meeting place more strongly than rural taverns where the accomodation function was more important. The contexts used in their study date from the end of the seventeenth century, but it seemed likely that this distinction would continue to be true in the late eighteenth and early nineteenth century. In defining structures 19A and 19B in Jamestown and the Lovelace Tavern in New York as examples of "urban" taverns, Rockman and Rothschild emphasize the political and economic centrality of these communities, by contrast to the settings of the John Earthy Tavern at the small village of Pemaquid, Maine, and the Wellfleet Tavern in a rural part of Cape Cod. The Riseing Son Tavern in Stanton would seem to be closer to the "rural" end of the spectrum, represented by the latter two examples, and that patterning in the artifact assemblage would reflect this.

Access to consumer goods from a wider geographic range than facilities that served a more local market was hypothesized for the Riseing Son in spite of its rural setting, by virtue of its location on a major inter-regional transportation artery. Analyses by Adams (1976) and Riordan and Adams (1985) have examined the position of particular sites within national market clines, based on commodity flow models developed in modern market research, and we hoped to be able to compare the profile of distribution for items from Stanton to other locations. Flows of commerce in response to changes in international economic systems would be expected to affect sites whose existence was related to defineable market activities. For example changes in the European market for grain and flour resulting from political and climatic shifts there could (and apparently did) have profound effects on milling and transshipment centers such as Stanton. Variation in response to more local changes was also anticipated, when additional data for comparison are forthcoming. The range of geographic access was expected to be observable on those artifacts whose point of origin could be determined. These various research expectations can be expressed in the form of hypotheses:

1. Service facilities, such as stables, barns and outbuildings, would be larger than would otherwise be expected for a town or village residential lot, in order to accomodate additional stock and vehicles for overnight customers.

2. Differences in the distribution of functional and economic artifact classes should be found betwen artifact assemblages collected at this site and those from:

- a. private domestic sites
- b. urban sites

The assemblage gathered during the testing showed that both coarse earthenwares,

at the low end of the consumer cost scale, and porcelain and refined redware at the high cost end appeared in larger proportions than were recorded for the domestic sites, and we expected this pattern to hold up during the salvage

3. The geographic range of the origins of consumer goods whose remains are preserved on the site should be wider than for sites located at some distance away from major transportation arteries.

Methodology

Documentary Research - Some documentary research had been completed during the combined Phase I and II research, and additional research was carried out for the Data Recovery to provide as much specific information as possible about the occupation on the site. Additional secondary sources were examined to fill out the general background of the site and the location, and consultation with Dr. Jay Custer and his staff at the University of Delaware, who were engaged in ongoing research at nearby historic sites proved helpful in this regard. The remainder of the research was completed at the Delaware State Archives in Dover. Primary materials relating to property ownership, probate actions, tax documents, tavern licenses, census enumerations, and birth and death records were examined to illuminate the results of the archeological research.

Field Methods - In order to address these hypotheses, field methods were employed to maximize the return of relevant data. Foundations and other features were exposed to define their size and function. Areas toward the rear of the lot were opened in an effort to locate deposits of artifacts that would allow the distributions of functional artifact classes to be analyzed. Sealed contexts where relatively intact artifacts might be expected were particularly sought. The potential for identifying function as well as origin is increased from such contexts.

The original grid, established during the survey and testing program (Thompson 1984), was used to align the excavation units during the data recovery. On the lower part of the lot, where considerable fill overburden had been identified during the survey and testing program, a Ford 6500 backhoe, provided by the Delaware Department of Transportation, was used to expose *in situ* features and surfaces. An approximately four-and-a-half-foot wide trench was opened by the machine across the bottom part of the lot, at a slight angle to the North 450 grid line. An additional north-south trench was opened just west of the West 365 grid line. These two trenches provided stratigraphic sections in both directions across the fill-covered portion of the lot. The backhoe was also used to open a roughly seventeen by twenty-seven foot block north and west of the initial trenches (these and all other excavations are shown and discussed in more detail in the next chapter). The backhoe was equipped with a four foot wide bucket with a smooth edge (a "cemetery" bucket), and the work was carefully monitored so that machine excavation was stopped before *in situ* contexts were penetrated. After the overburden was removed excavation in the lower part of the lot, as well as the upper part above the North 500 grid line where the veneer of fill was relatively thin, proceeded in five-foot-by-five-foot units, by natural horizons, screening through one quarter inch mesh screen.

Laboratory Methods - Artifacts were cleaned and analyzed in the laboratory and the ceramics and glass were coded for attributes following a procedure developed for a study completed for the New Jersey Department of Transportation (Thompson 1984). The coding procedure was designed to account for a wide variety of descriptive attributes in order to allow direct use of the data base for a number of different kinds of analytical studies. Numerical codes were assigned for each of a range of possible variable states for each attribute. In most cases, the measurement scale was nominal, except as described below. A summary of the variables and the codes for the variable states is provided in inventory keys. A standard IBM 80 column coding form was subdivided and the numerical codes for each variable (attribute) state were recorded directly from the artifacts. Each bag of artifacts was emptied, sorted and redundancies between artifact groups from different bags within the same provenience could be recognized by the computer and, depending on the particular analytical step, combined for analysis. All of the coding was completed by a single individual, so judgemental biases should be constant. This procedure allows for the recording of a considerably larger amount of data than can be accomplished with verbal descriptions or simple tables. The data were entered into a DEC 10 (Digital Equipment Corporation) computer at Catholic University for analysis, and is available on tape or in printout form (as numerical coding) to interested researchers. An abbreviated tabular inventory is submitted with the report (Appendix 3), following the format requested by the Delaware Department of Transportation.

For the glass, variables of manufacturing method that are relevant to the analysis of function and date of origin were coded at the level of accuracy possible for each artifact. For example, a whole, or largely intact bottle might be coded to indicate whether it was hand blown, blown in a mold, machine made, or other technique of manufacture, while a small sherd of glass would provide insufficient information to select between these. When possible, the function of a vessel was recorded (i.e. "Food Consumption", "Food Serving", "Medicine Container", etc.) and more detailed information on manufacturing, such as lip treatment, base treatment, and closure was also coded for materials sufficiently intact to allow this analysis. If the geographic origin was included in labels or embossing, this was noted, keeping in mind that these designations would most often apply to the contents of the container, rather than the container itself. This contrasts with the situation of ceramics, where a pottery mark will usually indicate the origin of the vessel itself. From the standpoint of analyzing the geographic range of economic trade reflected in an assemblage, it is the "commodity" that is of interest. In the case of glass containers, the contents are the "commodity" while in the case of ceramics, it is usually the vessel itself that is the commodity so in either case marked pieces are giving comparable information.

Similar kinds of attributes were coded for ceramics. Particular attention was paid to decorative attributes that might allow the analysis of the economic status reflected by the assemblage as well as the distribution of functional and "activity-related" artifact classes. We hoped to be able to define patterning in these materials that would compare and contrast with domestic sites and other tavern sites.

Other classes of artifacts such as metal and architectural materials were also analyzed to retrieve information on dating, subsistence activities, and the spatial organization of the site. Bone and shell were analyzed to gain information on the diet

and meal composition offered to the hotel guests for comparison to other studies (Lyman 1977, Reitz and Scarry 1985). Species and element identification were completed to the degree possible, and other analyses were carried out consistent with the quality of the data base (Appendices 4 and 5).

After the basic attribute analysis and coding were completed, the data were examined for several synthetic variables. The contexts were grouped on a preliminary basis, based on contextual information gathered during the field work. For example, the extent of Feature 99 had not been initially apparent in the field, so all the materials recovered from different designations that were later assigned to that feature were combined. In that grouping, as well as others, the possibility of stratigraphic separation was considered, so the appropriate subdivisions were made. The first step in evaluating the contexts was to apply dating methods. The ceramics had been assigned to South's numbered types during the coding, so a "Mean Ceramic Date" was computed for each grouping, following the method recommended by South (1972:217)². Various comments about the reliability of this method have been offered (i.e. D. South 1972), but its practical utility has been sufficiently demonstrated to justify its use. Median beginning and end dates were also computed (Salwen and Bridges 1977). Pipestem dates were also computed for those contexts for which there were sufficiently large samples (Binford 1972; South, ed., 1972:Part 2, Section 2)³. In addition to these computational procedures, all elements of the assemblages from each context were examined to identify other datable material, and to establish a *terminus post quem* (Noel Hume 1969:69) for each context. As much dating information as possible was assembled for each context, and a certain amount of caution was exercised in the interpretation of it since many of the contexts were midden horizons, and the possibility for contamination was present.

For the nineteenth century contexts, the attributes of glass containers were of particular interest for dating purposes and a variety of references, listed in the References Cited and Bibliography, were consulted. Individual ceramic marks, nails, and other pertinent temporal markers were combined with the information described above to yield dates for the individual context groupings. These were re-evaluated in light of the dating information, and a final set of groupings selected, to be used in the subsequent analysis.

Assemblage Pattern Analysis - The importance of pattern recognition and interpretation in creating meaningful results from historic archeological research is widely acknowledged and is most strongly articulated by Stanley South (1977). It is assumed that patterning in the archeological record reflects behavioral patterning generated by cultural forms and processes⁴ and that the identification and interpretation of these archeological patterns will elucidate these forms and processes. South looked at the percentage distributions of certain functional artifact classes ("Kitchen", "Architectural", etc.) for some sites for which published data were available, and he defined a series of patterns based on similarities in the percentage distributions between similar kinds of sites (South 1977). The objective of the procedure was to define patterns on the basis of relatively well known or documented sites to define and clarify the relationships between past events and the archeological remains of them. This knowledge would both increase our

understanding of events in the past, and also provide comparative standards against which data from less well documented or undocumented sites could be compared to determine their function. Recent examples of this kind of analysis in the Middle Atlantic Region include work reported by Kalb (et al 1982), Coleman (et al 1983,1984,1985), and Thomas (1983).

For this study, a general comparison was made between the percentage distribution of South's functional groups in the various context groups at Stanton and his predicted percentage value ranges. Data was summarized for the site and comparison was also made to other sites, including contexts described by Klein and Garrow (1984) for downtown Wilmington, using the Robinson Coefficient of Agreement (Doran and Hodson 1975:139). This measure was also used to apply a comparison with data published by Rockman and Rothschild (1984) for four other tavern sites. Additional comparisons were made between the percentage distributions of various decorative ceramic types deemed to have economic significance, between this site and several others, to see if pattern variation based on functional and/or economic status could be detected. The instrument of comparison for this part of the analysis is the Tau statistic. More detailed descriptions of these analyses and their significance is given in the section of this report devoted to the artifact analysis.

In summary, various methods of analysis were applied to the results of the research in order to address the research questions given above. A number of limitations were experienced in the realization of the research goals of the project, however, and a brief account of these is appropriate here.

Constraints

The main constraint in the conduct of the background research was the ambiguity surrounding the tenant/operators of the hotel after it passes into the hands of Peter Springer's heirs. It appears likely that the owners did not reside on the premises from fairly early in the nineteenth century, and the identification of who was operating the business is sketchy at best. This in turn, has placed limitations on the identification of appropriate tax and other documents keyed to the name of the operator of the business. In spite of this, additional information was developed, and this is described in the section devoted to background research.

Most of the major constraints on the field investigations were apparent after the completion of the testing program. The upper part of the lot had been so deeply disturbed by the demolition of the hotel structure and the construction of the gas station, that there was no hope for recovering intact archeological remains. Since the most interesting material was expected toward the rear of the lot, excavation work concentrated there. Work to the (grid) east of the grassy island where the test excavation was carried out was eliminated because access to the gas station via the paved driveway could not be blocked. The principal limitation of this was that the dimensions of the lower structure could not be completely determined. It is possible that some additional features associated with that structure were also inaccessible. There may also have been additional midden or features below the main lanes of Route 4, Eastbound, south of the area investigated, but such items, and any similar ones below the gas station tarmac are either already disturbed or will not suffer

significant additional disturbance as the result of the proposed construction. These resources will suffer mainly by being concealed.

The artifacts collected provide a large data base for the investigation of research questions related to artifact patterning of functional and economic significance. Because a majority of the contexts were either midden or secondary deposits (Feature 99) the glass and ceramics were highly fragmentary, and attributes of vessel function were often obscured. The research goal of examining the distribution of the geographic origin of items in the assemblage was also frustrated by this situation. Embossed glass was expected to be a primary source of geographic information and while many embossed fragments were recovered, relatively few were sufficiently intact to provide reliable information about geographic origin.

An unexpected benefit of the research was the location of a "pure" eighteenth century feature. Background research suggested the possibility that contexts this early were present on the lot, but none had been located during the testing, so the assemblage from Feature 99 was particularly welcome for comparison with other colonial period sites in the region. Therefore, in spite of the limitations described here, a large sample of significant and useful data was recovered.

Notes: Research Design

¹The pre-printed license application forms state the applicant wishes to operate a tavern "in his dwelling" or "where he now resides", though in many cases it is clear that this is not the owner. The important point here is that the building where the tavern is operated is also the residence of the proprietor and his family.

²The standard formula developed by South (1972, 1977) is used, the Chinese Porcelain Types 26 and 39 are not included in the calculation, and 1.1 years are subtracted from the value thus obtained.

³As is commonly acknowledged, the various formulas become unreliable shortly after the middle of the 18th century, and the results of the calculations are given here only for the earliest context, Feature 99.

⁴Of course, patterned "noise", created by post-depositional processes, may also be present (Schiffer 1977).