# THE MAISABEL ARCHAEOLOGICAL PROJECT: A LONG TERM MULTI-DISCIPLINARY INVESTIGATION

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The Maisabel Archaeological Project is a large-scale multi-disciplinary effort designed to answer several basic questions in Caribbean prehistory. To this end, we have constructed an explicit research design in order to guide our fieldwork, data recognition techniques, laboratory analyses, and the enlistment of various specialists.

In this paper we will briefly outline the research design and show how this has structured the archaeological investigation to date. We have presented other papers at this conference detailing the sampling plan and the overall site interpretation (Budinoff 1988; Roe 1988; Roe and Siegel 1987; Siegel and Bernstein 1988), thus we will describe here the field and laboratory techniques, curation standards, specialized laboratory analyses, and discuss how these relate to the research design, in addition to fulfilling essential museum obligations.

## RESEARCH DESIGN

The origin, development, and spread of early ceramic groups as a cultural phenomenon is a major issue in Caribbean archaeology, integral aspects of which are the roles of stable vs. shifting dietary patterns (Jones 1985), horticultural intensification (Roosevelt 1980; Keegan 1985), settlement stability and organization (Siegel 1988), and the processes or mechanisms of cultural dispersal (Rouse 1982, 1985, 1986; Keegan 1985). Investigators in disparate sections of the Caribbean Basin have been addressing these issues in a piecemeal fashion, the combined results of which are gradually providing us with an ever-increasingly complete mosaic of early ceramic group lifeways and adaptive strategies.

Irving Rouse, through his long and continuing productive career in the Caribbean, has probably been the single most influential archaeologist to generate important research designed to answer questions regarding the timing and rates of arrival for the early ceramic or Saladoid groups to various sections of the Caribbean. Further, through the construction of detailed chronological and linguistic models Rouse has provided a framework within which research has focused on subsequent development and change of the cultural context following the peopling of the Caribbean by the initial ceramic populations.

As mentioned above, much of this research has focused on the intensification in the food production system related to dietary shifts through time. As Siegel and Bernstein (1988) argue elsewhere, in order to truly understand complex processes such as horticultural intensification and diet changes, it is necessary to examine and reconstruct the organization of the settlements in which these changes occurred.

Siegel and Bernstein's (1988) paper on the sampling design offers an exposition of the settlement organization. Therefore, we will present at this time an outline of our data recovery procedures, artifact processing and curation, and specialized laboratory analyses.

## DATA RECOVERY PROCEDURES

Given our focus on overall settlement organization we are necessarily interested in more than the vertical distribution of artifact types. We want to understand the ancient deposits that we excavate not as a prehistoric site, but as a functioning settlement or village, which was occupied not by broken pots but by living breathing humans. Therefore, in our sampling design we excavated numerous areas in addition to the clearly observed cultural mounds located within the site. Furthermore, following the initial round of testing by which we delimited the site boundaries and coarsely defined internal variation in the artifact distribution, we employed test units large enough to discover features. If we are interested in the behavioral organization of a village then understanding the distribution and types of features will aid immeasurably in the interpretations.

Generally, we used 2 x 2 m sized excavation units in the phase 2 testing program. Artifacts are bagged and kept distinct by arbitrary 10 cm levels. However, if soil color and/or texture differences are noticeable in more than one portion of a level then these soil differences are lettered with Area designations and the artifacts recovered from these areas are bagged separately. At the base of each level a plan map is made and a photograph taken to document soil types and artifact spatial distributions.

Features and burials are excavated as distinct units. How these are excavated is decided upon a case by case basis. All features are initially mapped and photographed in plan perspective. Usually, they will then be bisected for a profile drawing and a photograph. If it is a large feature the remaining half will be excavated in levels with a plan drawing made and a photograph taken for each level. If it is a small feature then the remaining half generally is excavated as a single provenience.

As we discussed earlier one of our interests is in early cermaic lifeways and adaptive strategies. One of the issues in Caribbean archaeology is the degree to which different cultural groups through time relied upon various food types. Certain kinds of food reliance, such as corn, imply a relatively high degree of horticultural intensification, which then also relates to a certain degree of settlement stability.

Many of the arguments in the Caribbean regarding adaptive strategies have been based simply upon ethnographic analogies, information gleaned from the ethnohistoric accounts, and conventional wisdom. While ethnographic and ethnohistoric data are important for providing insights and to some degree a certain amount of baseline information it is critical to be aware of the fact that what we observe today and what the Spaniards were recording in the 16th and 17th centuries could be and likely was far different than what was present 2000 and 3000 years ago. Thus, in an

archaeological excavation I would argue that it is far better to rely upon direct evidence of variable adaptations than to employ the specific details of present-day or ethnohistorically observed groups in our assessments. The ethnographic context may be used to provide us with insight into general conditions and lifeways, but should not be used for reconstructing specific aspects of the adaptations or social forms. These data preferably should be retrieved from the archaeological record. Otherwise, we are merely conducting exercises in armchair speculation, which have little more than no value.

In terms of the Maisabel Archaeological Project we are approaching issues of adaptation through the examination of physical remains recovered in the excavation. The physical evidence consists primarily of faunal and botanical remains in a variety of recovery contexts, such as general midden, features, and mound deposits. It is not appropriate to base assessments of relative amounts of faunal and botanical remains on what is recovered in the field excavation sifters. If one does so, then an inherent bias is built into the interpretations, which is derived from examining only those remains that are large enough to be recovered in the field sifters (in our case we used ¼" sized mesh).

From every recovery context in the site, therefore, we take two soil samples. A recovery context may be a 10 cm level in a 2 x 2 m square, a profile trench of a feature, a level of a feature, etc. One soil sample is generally about 10 l, and this is used for flotation. A second smaller sample is taken to analyze the chemical characteristics of the soil, as well as for the investigation of opal phytoliths (these are inorganic components of plant cell walls; phytoliths are species-specific, thus identifying the phytoliths present in the site matrices will aid in determining what plants were being used by the prehistoric occupants). We feel that it is more reliable to base interpretations of prehistoric subsistence on the remains recovered in the soil samples than on ethnographic analogues.

## LABORATORY SPECIALISTS

Currently, we have various specialists analyzing the physical remains recovered by excavation. Susan deFrance, an M.A. Candidate in the Zooarchaeology Program at the University of Florida in Gainesville is examining the faunal remains from a sub-set of the flotation samples. Goals of the faunal analysis are to quantify the magnitude and direction of dietary changes through time, to identify major and minor resource zones exploited by the prehistoric occupants, and to provide insight into the food intensification processes that undoubtedly were occurring during this stage of cultural development. Lee Ann Newsom, a Ph.D. student at the same institution is analyzing the carbonized wood fragments recovered from a number of our hearth features. This will be helpful for objectively reconstructing the paleoenvironmental context, in addition to providing us with some insight into the aboriginal tree procurement criteria. Further, Newsom is examining the flotation samples for any carbonized seeds, tubers, or other plant parts that may be present.

William Keegan, who is an Assistant Curator of Anthropology at the Florida State Museum in Gainesville, is conducting a stable carbon and nitrogen isotope analysis of the human skeletal remains recovered from Maisabel. The photosynthetic pathways of major plant groups vary, thus imparting distinctive $^{13}C/^{12}C$ ratios to the bone collagen of the consumers of those plants (van der Merwe and Vogel 1978; van der Merwe et al. 1981; van der Merwe 1982; Sealy and van der Merwe 1986). The $^{13}C/^{12}C$ ratio is not species-specific, but it will enable us to distinguish between broad plant groups consumed. It should be pointed out that maize falls into one category known as a $C_4$ plant, whereas manioc is a $C_3$ plant. Further, studying the $^{15}N/^{14}N$ ratios in the bone collagen of the human skeletons will provide us with information regarding the relative dependence on marine vs. terrestrial dietary resources (Schoeninger et al. 1983; Schoeninger and DeNiro 1984). We have 34 burials representing the full range of prehistoric occupations at the site. The data obtained in the isotope study in combination with the faunal and floral analyses will help in addressing the issues of stable vs. shifting dietary patterns and horticultural intensification.

## DATA MANAGEMENT AND ARTIFACT CURATION

Managing the logistics and research of a major archaeological excavation is similar to running a corporation. Decisions need to be made as to where, why, and how units are excavated, kinds and quantities of samples to be taken, when and what kinds of specialists are necessary, efficient procedures for processing large quantities of artifacts in a systematized fashion, the establishment and maintenance of a proper artifact curation and cataloguing system, and finally an organizational structure insuring that the overall system operates smoothly.

For the Maisabel Archaeological Project we have instituted a formalized system for data recovery, processing, recording, and storage. Archaeological fieldwork in general, and major excavations in particular quickly generate tremendous amounts of material. Unless formal and <u>consistent</u> methods are systematized for <u>all</u> stages in the initial recovery and processing of information, it is not long before an archaeological excavation becomes an organizational mess, and later on much valuable research and analysis time will be wasted on trying to reconstruct the history of events that might have occurred perhaps two field seasons previously. The rationale behind systematizing formal and consistent methods of data recovery and processing is that at any time in the future other researchers should be able to access <u>easily</u> the materials from the excavation. The artifacts recovered in any given day of fieldwork should be accountable from the moment the field day ends through all stages of processing and analysis, and ultimately to their storage in the repository. Further, the material from any recovery context should be easily accessible without having to rummage through endless boxes and bags of artifacts. There is nothing more stultifying to the research process than having to deal with the aftermath of a poorly organized and managed data recovery/processing system.

The most efficient way to insure that information is recovered, recorded, and processed accurately and consistently is through the judi-

cious use of forms. Forms devised for this project cover a variety of excavation situations, the field inventory, through the processing stages to the final storage of materials.

At this point we will present an outline of our tabulation and cataloguing system. The tabulation of artifacts is one of the most important links in the overall research of an archaeological investigation. The tabulation transforms the homogeneous mass of artifacts into the raw data, upon which the analysis is based. Tabulation is a research process. The specific tabulation scheme selected is a direct outgrowth of the research design. The questions that are being asked about the site will determine how the researcher wants the artifacts sorted and tallied.

Cataloguing, on the other hand, is an accounting or inventorying process. Cornelius Osgood (1979:59) indicates that "cataloguing is one of the two most important obligations of a museum in relation to its collections". He defines a catalogue system "as the combination of symbols... used to identify one collection or any part of it" (Osgood 1979:59). The catalogue number includes the specimen number. "A specimen number is defined as the combination of symbols used to identify the smallest unit into which a collection is resolved. This is usually a single specimen, but may be several or even comprise a large aggregate when objects such as potsherds are catalogued with a single number" (Osgood 1979:59).

For the Maisabel Archaeological Project we are tabulating and cataloguing the artifacts simultaneously. As the materials are sorted into the various categories, which have been deemed important to monitor for the research, they are then also assigned catalogue numbers. The catalogue numbers are recorded on Register Forms and in many cases on the artifacts themselves. Some artifacts receive unique catalogue numbers, such as zone-incised and cross-hatched pottery fragments or white-on-red painted pottery, whereas other artifacts receive group catalogue numbers. These would be such artifacts as unincised and unpainted body sherds that have no secondary adornments.

After the artifacts have been tabulated and catalogued they are then funneled into one of many storage places. We are storing artifacts by the types defined in the tabulation system. For instance, all unincised and unpainted body sherds are stored together in a box separate from say red-slipped body sherds. The artifacts that we refer to frequently during the analysis are stored in flat open trays on narrow shelves so that they are easily available for examination.

## SUMMARY AND CONCLUSIONS

In this paper we have shown how our research design has guided the fieldwork including the location and size of excavation units, kinds of samples taken, the selection of various specialists to aid in the overall research, and the artifact tabulation and cataloguing system. We believe that it is important for archaeologists to spell out clearly in their site reports the rationale and system for artifact recovery, and how this relates to the research being conducted. Further, it is equally indispensable to account for the follow-up curation procedures. As we all know,

once a site is excavated it is permanently destroyed. If we do not follow rigorous, consistent, and replicable standards of artifact recovery, recording, and curation then we are not on much better ethical footing than the pothunters and dilettantes, who at least may claim ignorance.

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