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Palmetto Parapets

by Stanley South

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PALMETTO PARAPETS

Exploratory Archeology at Fort Moultrie, South Carolina, 38CH50

by

Stanley South

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THE FIRST FORT MOULTRIE EXPLORATORY EXCAVATION

ANTHROPOLOGICAL STUDIES #1

INSTITUTE OF ARCHEOLOGY AND ANTHROPOLOGY
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PREFACE

"Palmetto Parapets" is the first volume in a new series of research papers from the Institute of Archeology and Anthropology of the University of South Carolina. This new series has the general title of "ANTHROPOLOGICAL STUDIES", and consists of occasional papers reporting the results of research. This is the second publication series of the Institute, the first being the bi-monthly bulletin entitled "THE NOTEBOOK", now in its sixth volume.

An archeologist really has only about three products to offer as a result of his professional efforts. One is the creation of a file of developed or developing knowledge - a data bank - that can be used by himself and by a few professional colleagues. Another is the use of this knowledge and the accumulated artifacts and records for historical reconstruction and exhibit. The third product, and the only one that has usefulness for a large audience, is the publication of the results of his research. This is the *real* product that the archeologist has to offer.

THE NOTEBOOK provides a portion of this publication product from the Institute but it is generally limited to short articles and brief preliminary reports. Larger research papers cannot be accomodated in this format.

This new publication is intended to provide, for both the scholarly community and the general public, a series of scientific papers on the general subject of anthropology. The emphasis will be on one phase of anthropology - archeology - and the geographical emphasis will be the State of South Carolina. This is because the efforts of the Institute are primarily archeological and in South Carolina. The intent, though, is not to limit the scope of the series to South Carolina archeology. It is to embrace all aspects of anthropology and closely related disciplines and to include any geographic area that might in any significant way relate to the primary emphasis.

Studies in this series will mainly be the results of work of the Institute staff, but we welcome contributions from other scholars of the University of South Carolina, the State of South Carolina and from elsewhere. Each contribution in the series will be required to be largely self-supporting and will be carefully reviewed and edited by an editorial board.

The present paper by Stanley South reports the results of one of the regular, full-time research projects of the Institute. It is an archeological report of an investigation in South Carolina, at the site of Fort Moultrie on Sullivan's Island near Charleston. Like most of the Institute's research projects, this one was sponsored by an outside agency. The National Park Service, U.S. Department of the Interior, asked the Institute to conduct archeological investigations at the site to aid the Service in its interpretation of the First Fort Moultrie for the Bicentennial Celebration and to examine other aspects of the site.

A contract was negotiated by Richard D. Faust, Acting Chief of the Southeastern Archeological Center on behalf of the Service and by myself on behalf of the Institute. George R. Fischer and John D. Walker, archeologists at the Center, and Stanley South, archeologist at the Institute, aided in bringing the contract into being. The Service's contract, No. CX50031584, dated May 21, 1973, in the amount of $8,400 was accomplished. During the field season additional work was required and the contract was supplemented on December 12, 1973, increasing the amount to $11,320.

In addition to the contract funding, the Service supported the project with the cost of well-points and some heavy equipment costs from the Fort Moultrie National Monument budget through the good offices of Mr. William Harris, Superintendent of the Monument. The Institute also contributed to the funding by providing the salary of Stanley South for nine months as well as field and laboratory equipment, facilities and services, including drafting and photography and consulting services of the Institute staff.

The field work was scheduled for five weeks but at the end of that time additional work was necessary in order to complete the investigations and the time was extended to ten weeks. Excavation began on October 15, 1973, and continued through December 21, 1973. This was followed by seven months of laboratory analyses and preparation of the present report.

This project was a preliminary and exploratory investigation designed primarily to find and identify the position of the First Fort Moultrie of 1776. Incidental objectives were to identify remains of subsequent fortifications on the same site. The project was initially designed with anticipated follow-up of the exploratory work. A part of that follow-up work has now been undertaken by the staff archeologists of the Service in consultation with the Institute. The results of that work should be an amplification of the work described in the present report.

Institute projects are designed as multi-purpose efforts. One purpose is to accomplish the goals that the sponsor has in mind. This is usually, and was at Fort Moultrie, simply interpretation of a particular site in its historical setting. A second purpose is the increase and diffusion of knowledge; the addition of *new* increments of understanding of how people lived and why they did what they did in a cultural continuum - the cultural process. It is the intent of this purpose to add to the total data bank of knowledge of the cultural process and to disseminate that knowledge in a report. A third purpose is to record and preserve as accurately and as completely as possible, a maximum of the potential archeological data of the State. This latter may be called inventory or salvage or preservation of a non-renewable resource. It is the amassing of detailed data that might otherwise be destroyed in the course of industrial development; data that may be usable for the interpretation of more than just the project at hand. It is the intent of the Institute to hold such data available for all time to any serious

research investigator who might wish to use such a data bank.

In "Palmetto Parapets", the first and third purposes were accomplished at Fort Moultrie but the heavy emphasis in the report is on the second purpose. The addition of *new increments of knowledge* has been uppermost in the writer's mind throughout the preparation of this report.

The Institute operates as a team directing its efforts toward full-time research. Each of us is a part of every project and injects some of his own intellect into every project. There was no member of the Institute staff during the period of the Fort Moultrie work that did not contribute something to that project. Our orientation in research design is toward problem-solving and the understanding of the cultural process without neglecting the basic purpose of the sponsor. So it was with Fort Moultrie, and in this vein it has been, as always, a pleasure to work in cooperation with the National Park Service. I have personally had the pleasure of many years of cooperative association with the Service and all of us at the Institute look forward to future years of mutually rewarding cooperative effort.

We sincerely hope that "Palmetto Parapets" will prove to be a useful report to begin this new series of ANTHROPOLOGICAL STUDIES and that it will provide a significant increase and diffusion of knowledge about a most important South Carolina military establishment.

Robert L. Stephenson
November, 1974

FOREWORD

When human beings go about their activities whether they are living in a city, managing a farm, or fighting a battle they utilize material artifacts and disturb the environment in a pattern that reflects their activities. These artifacts and disturbances are often sealed into the earth from which they may be resurrected at some time in the future--sometimes this resurrection is part of an archeological record. Taking this resurrected material and interpreting the situation of deposition requires a complex set of techniques. The archeologist accepts the responsibility for such interpretation of the past, and in the process he also accepts the responsibility for continuously developing new techniques for use in archeological interpretation. "Palmetto Parapets--Exploratory Archeology at Fort Moultrie" represents the double responsibility of an archeologist to understand the specific while considering the general and developing techniques that may be used in future research.

Reflected throughout this report we can see the fundamental premise that the material culture of human beings is patterned and that archeological interpretation is founded upon the explication of this pattern. South considers this premise as the primary tool for the understanding of aggregate human behavior.

While historical documents are extensively used and the features of non-material behavior are considered to be fundamental, the substance of this investigation is "things" as they were used. South is not doing history and he is not doing ethnology or sociology, he is involved with archeology--on several points he points out that the data base for history and archeology are different. They are completely different ways of looking at phenomena of human behavior. In this stance, South is

accompanied by many other archeologists who insist that it is an inefficient waste of archeology to try to replicate the material developed by other kinds of investigations based on completely different sets of data (Clarke 1968, Harris 1968, Deetz 1970).

Explicitly, there are three goals placed before this document:

1. the location and identification of the First Fort Moultrie;
2. contributing, where useful and convenient, to the understanding of the broad pattern of late eighteenth and nineteenth century culture; and
3. examining the methodology used in historic sites archeology and developing new tools for future use. Implicitly, one of the goals of this paper is to present the mechanisms by which one archeologist arrived at his conclusions.

The location of the First Fort Moultrie is a straight forward task performed on the basis of previously developed archeological techniques. In the process of fulfilling this task one of the classic fears of archeology came true for the author: his original interpretation was proven wrong. After having made an interpretation of the position of the northeast bastion of the original fort on the basis of his excavated data, South suggested that further excavation was needed to check his results. The additional archeology, as well as new historical information indicated that at least part of the original interpretation was in error. Fortunately, new data was anticipated and could be incorporated into the final edition of the Fort Moultrie report. South presents Hypothesis A and Hypothesis B, and he points out that A (his original) was nullified by additional information. As such, "Palmetto Parapets" is successful in demonstrating that few archeological investigations ever present the "final story". Avenue should always be left open for additional information, and this demonstration of objectivity should

serve as a model as to the manner in which archeological data and interpretations should be considered.

While achievement of the first goal of this research carried an implicit statement concerning the process of archeology, the other aspects are even more strongly directed at revealing the philosophy of research as well as the methods and the results. This report does not have many of the things traditionally found in an archeological report. There are no plates of ceramics, no pictures of hinges, no bottles--many of the old familiar things we have seen before are missing. With reason South points out that there is no time nor space in archeology for the redundant illustration of artifact after artifact. So many material remains were produced in the eighteenth and nineteenth century that if every kind of artifact were treated we would spend a lifetime simply analyzing the artifacts from one site. Rather, the artifacts, even those recovered from one excavation must be sampled. South is looking for special artifact patterns. He is looking for artifacts that are sensitive to time,spatial or cultural variables. Buttons, lead balls, and ceramics are studied in their respective ways in this report because they mean something to the archeologist and the things he is trying to understand. Many things are not.

South points out that many of the material things not investigated such as blankets, coats, stockings, etc. were not investigated because they were not found, yet it is primarily these material items that are most often mentioned in the historic documents. The point made is that often history and archeology deal with different sets of data. They may often be used together, but they are not usually aimed at making the same kinds of generalizations.

Concerning the ideas about theory and methodology this report does not read smoothly, as is often the case when the more ethereal topics of archeology are discussed. Rather, after the discussion of a series of buttons, or the bones from an archeological site the reader will find himself faced with a statement about the general approach of archeologists to archeological data. Through this erratic occurrence we see the thoughts of an archeologist involved in his work. We see the places where these ideas arise--we see not only the thoughts but the process. In future publications this will probably not be the case. Once ideas are considered and digested they are relegated to a place on "theory" and a place on "method". There they appear as they are conceived and used.

In 1960 when the "Conference on Historic Site Archaeology" was founded by Stanley South the name of this conference held a special meaning. The name was not the "Conference on Historic Archaeology" or the "Conference on Historical Archaeology".* Rather, the name of the meeting reflected that the emphasis was on the *archeology* of historic sites. From that point on, Stanley South has sought to emphasize the importance of archeology and "Palmetto Parapets--Exploratory Archeology at Fort Moultrie" has an emphasis on archeology.

Leland G. Ferguson
November 7, 1974

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*By popular choice the field is now referred to as Historical Archaeology.

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I

PALMETTO PARAPETS

EXPLORATORY ARCHEOLOGY AT FORT MOULTRIE

INTRODUCTION

Architectural Goal: Find the First Fort Moultrie

Fort Moultrie is located on Sullivan's Island, South Carolina, at the north entrance to Charleston Harbor, and was positioned so that its guns could protect the port at Charleston. There were three periods of major construction, with each fort being called Moultrie in honor of the American William Moultrie, leader of the Second South Carolina Regiment of Infantry, which repelled the British fleet from Charleston on June 28, 1776 (Moultrie 1802:I, 121-22). When first constructed in the early months of 1776, the fort was sometimes referred to as Sullivan's Fort in reference to its location on Sullivan's Island, but after the battle the name was officially designated as Fort Moultrie (Drayton 1821:II, 304f). This report is concerned primarily with the First Fort Moultrie, with data on the Second Fort Moultrie and the Third Fort Moultrie being presented as it relates to the research centered around the first fort.

The primary goal of the exploratory archeology at Fort Moultrie was to locate the remains of the first fort, with a larger expedition planned for more detailed excavation of broader areas once the first fort was found, and to examine in more detail portions of the later forts. The project was carried out by means of a contract between the National Park Service and the Institute of Archeology and Anthropology at the University of South Carolina. The expedition was planned for a period of five weeks, but was eventually extended to ten weeks after

the First Fort Moultrie was located. The excavation was carried out between October 15, and December 21, 1973, with analysis, and report writing continuing through June 1974.

There is no above-ground evidence for the first two forts, but the third fort, built in 1808, still stands on the site. The tradition associated with the first fort says that it was "swallowed by the sea" (Bearss 1968a), and the archeological project was designed to determine whether or not this was correct. As a result of his research, from which three volumes on Fort Moultrie have been printed, Edwin C. Bearss was able to make a prediction as to the location of the First Fort Moultrie, stating that "...the north curtain of Fort Moultrie, Number 3, is located on or near the north curtain of Fort Moultrie, Number 1" (Bearss 1968a:78). He stated the reason for the Park Service interest in archeology on the site when he said, "...a trained archeologist might pinpoint some of its remains and thus verify the location of this fort" (Bearss 1968a:79). From the Park Service point of view this was the primary research goal at Fort Moultrie, along with the secondary recovery of data relating to the second and third forts as these were located in the process of excavation centering on the First Fort Moultrie.

The plan as to where to begin excavation centered on the area pinpointed by Edwin Bearss, near the northwest bastion of the third fort, where he had predicted the first fort remains would be found. Before excavation began, however, word was received from the historical architect for the National Park Service (John Garner to George Fischer, September 21, 1973), suggesting that on the basis of aerial photographs excavation might be undertaken on visible features located to the southeast of the third fort, and at the site of two wells from the Second

Fort Moultrie shown on a map of 1803 (Fig. 1). However, when the surface features were examined on the site they did not appear to be surviving from two hundred years past, and excavation was begun further to the north on the basis of the Bearss suggestion. Excavation in the area indicated by Bearss for the location of the north curtain wall of the first fort was undertaken, and the First Fort Moultrie was discovered. From this time on the archeology concentrated on revealing features of the First Fort Moultrie, and a search for the later fort architectural data took second priority since the First Fort Moultrie had been discovered, which was the primary purpose of the exploratory archeology project.

Archeological Research Goals

Besides these obvious architectural goals centering around the discovery of the First Fort Moultrie, there were research goals set by the archeologist beyond those specified in the National Park Service contract. One of these was the testing of the South Mean Ceramic Date Formula (1972:85), which, when used on the ceramics discarded by William Moultrie and his men between 1776 and 1780, and by the British between 1780 and 1782, should provide a mean ceramic date of 1779 $\pm$ one standard deviation of 3.8 years (South 1972:218), being the mid-occupation date from 1776 to 1782. (The Mean Ceramic Date proved to be 1776.5)

Another research goal was to examime whether or not a distinction between American and British occupations of the site could be determined from the archeological data. The assumption was that there could not be a distinction determined from so short a period of occupation. (The assumption proved incorrect, since buttons clearly revealed American as well as British deposits).

If a separation between midden deposits could be located, a third research goal was: would the Mean Ceramic Date Formula act sensitively enough to produce mean ceramic dates reflecting the two periods of occupation? (It produced a date of 1774 for a median American occupation of 1778, and a date of 1781.8 for a median British occupation of 1781.)

A fourth goal was based on the fact that marbleized pearlware has been found in a context prior to 1782, as indicated by recent work at Revolutionary War sites at Fort Watson, Ninety Six, Camden, and other sites, as well as on a shipwreck site of 1782. This being the case we might well expect to find it in the 1776 to 1782 context at Fort Moultrie, which would then provide additional evidence for the occurrence of this ceramic type nearer 1780 than had previously been thought. (The marbleized pearlware type was found in the British midden dating ca. 1780-1782).

A fifth goal involved the hopeful discovery of stratigraphic data reflecting the broad temporal range of occupation of the site from the Revolutionary War to the twentieth century. Such information would be helpful in the interpretation of the various soil layers accumulated since the Revolutionary War period, and hopefully some processual data in the form of evolutionary change of form through time could be demonstrated with some artifact groups. (Stratigraphic layers were revealed to reflect interpreted occupation periods of ca. 1795 to 1812, ca. 1800 to 1840, ca. 1840 to 1850, ca. 1850 to 1900, and ca. 1900 to 1973.)

The excavation at Fort Moultrie amply answered these research goals, and provided some new insights relating to the following areas of inquiry:

1. chronology
2. the American and British occupation
3. officers and soldiers
4. militia and military personnel
5. Indians
6. acculturation
7. subsistence
8. domestic and wild animals
9. distributional analysis of artifacts relative to architecture
10. functional relationships of artifacts
11. stratigraphy
12. architecture
13. artifacts
14. culture process and evolution
15. pearlware on 1780's sites
16. mutually exclusive data sets between history and archeology

Theoretical Orientation

The demonstration of patterning from the material remains from archeological sites, and the integrative synthesis of these data in terms of the explanation of progenital cultural patterns, is the direction historical archeology must take to emerge from the concentration on purely descriptive reporting, and take its place among behavioral disciplines. Historical archeology is presently oriented toward a search for greater accuracy, authenticity, validity, correlation, personalization, and interpretation of "historical reality", epitomized in the historic site preservation-restoration-reconstruction-nostalgia syndrome.

Archeology does contribute toward these goals, but they are secondary by-products of its primary function, the integrative explication of patterned material remains of culture stemming from human occupation. Throughout this report the emphasis has been directed at this theoretical base, and as synthesis of various artifact grouping and classes is undertaken there are frequent discussions of the relevance of the conclusions to this framework.

Historical archeology site reports frequently emphasize one of the following approaches:

1. Archeology is used to "fill in" historical documentation.
2. Archeology is used to locate architectural features.
3. Archeology is used to recover artifacts which are then described in great detail, often to no apparent end (pseudo-analysis).
4. Archeology is "correlated" with historical documentation.

The reason for this limited orientation, in this writer's opinion, is the absence of a concentration on the discovery and synthesis of pattern in the material remains of culture stemming from human occupation. With such a guideline, the emphasis must be on *synthesis* based on detailed *analysis*. Artifact analysis can most effectively be done, with a class of artifacts for instance, when a broad data base is available, and such a data base does not usually emerge from a single site. When an analysis is conducted on such a class of objects using data from a number of sources, historical and archeological, the result is an integrated synthesis. Such synthesis statements based on analysis, are exemplified in the creation of the Mean Ceramic Date Formula (South 1972), or the analysis of buttons from Brunswick and Fort Fisher, North Carolina (South 1964), and the synthesizing statements on many classes of artifacts made by Ivor Noël Hume in his book *A Guide to Artifacts of Colonial America* (1970).*

If the recording of the attributes of six gunflints from a site will add to our accumulation of knowledge about gunflints, then we should by all means undertake to present these data. If, however, we must use information produced by previous analyses and synthesizing studies to discuss our gunflints in time and space, then the data-flow is not from the site to our data bank of knowledge, but from

*Also the fine new series from Colonial Williamsburg, introduced by *Five Artifact Studies*, under the editorship of Ivor Noël Hume: 1973.

existing knowledge *toward* the site. (A discussion of this theoretical base is presented in Appendix II.) If we find that virtually all our efforts in explaining the historical archeology data from a site have drawn on our previous body of knowledge toward explaining the site, then our site has acted primarily as a mirror reflecting previous research. The synthesizing emphasis on patterning seen in the remains of material culture used in this report attempts to open the interpretive door at the end of the archeological trench.

Therefore, to conduct an "analysis" of six gunflints from an historic site, or an "analysis" of anything, requires a research hypothesis under which certain minimal identifying characteristics, or attributes are called for in relation to the design. The recording of no more involved an artifact type than "feather-edged creamware" is on the same level as the multi-attribute recording of a complex set of data for the purpose of determing pattern through sophisticated statistical analysis, *provided both statements are made within the framework of the postulates and hypotheses of a research design.* The meticulous recording of attributes as an exercise contributes nothing new to our knowledge without the explanation for such data-recording within our research design. Thus, in this report there are no pictures of musket balls, creamware sherds, marbles, gunflints, percussion caps, etc., since their illustration here would not add to our accumulation of knowledge. Better examples may be seen in other sources, which are cited as references in the sections where synthesis of data is being carried out. *The emphasis here has been on the integrative synthesis of data rather than the analytical description of data.*

In 1955, J. C. Harrington recognized that historic site archeologists had a compulsion to illustrate every object recovered from a site, and unfortunately such is still the case.

> Unfamiliar as he is with the cultural material encountered, the reporter on historic site excavations feels that he must describe and illustrate every object. This procedure was often necessary with his Indian materials, for he had not been privileged to work with ceramic types which could be neatly characterized by such simple phrases as, for example, "Wedgwood creamware" or "Lambeth delftware." He is inclined, therefore, to devote unnecessary space in his report to lengthy objective descriptions when a single word or phrase would suffice. In some cases, however, careful descriptions are needed, as of, for example, the products of local craftsmen. Here, as in field methods, the necessary judgment and selectivity can be acquired only from training and experience (Harrington 1955:1127).

Harrington's statement "training and experience" might lead one to infer that only through experience could you acquire a sufficient grasp of the historic site materials to successfully avoid the description and illustration of masses of artifact data. The scientific archeologist, with the numerous sources available for research of historic site materials, and illustrated examples of ceramics, glassware, etc., *with a scientific frame of reference* can, through a careful study of attributes, etc., write a cogent synthesis of his data at least as good as the usual descriptive reports and considerably more useful.

In 1955 the field of historical archeology paid little attention to Harrington's advice, and even today there is too great an emphasis on description as a goal. Within a decade historical archeology will be flooded with young minds bringing to the field the best of theory, statistics, and a scientific base of operation. Their reports will heed Harrington's advice and not be merely descriptions of artifacts, but will be within the framework of a research design anchored in a firm theoretical base.

This does not mean, of course, that description *of new data* is not needed. Such description is basic to the accumulation of knowledge regarding artifact analysis, but the repititious description

and illustration of well known artifacts is an unnecessary exercise.

Provenience Control and Data Evaluation

Each excavation unit was assigned a provenience control number, and stratigraphic layers were designated with letters attached to the number. The site grid was based on a U.S.G.S. marker on the east side of the Third Fort Moultrie, with a base line extending to the corner of Battery Jasper to the east (Fig. 1). A provenience card was kept on each unit, and pertinent notes as to the archeological context were recorded thereon. This, along with profile and plan drawings, transit log, and photographs, formed the basic observational data. This data is presented in Appendix I.

Along with these provenience data there is recorded an evaluation of the data as to its significance in the archeological synthesis process. Each excavation area, level, feature, etc., was assigned letters referring to whether the provenience unit provided useful information on architecture, chronology, artifact analysis, stratigraphy, cultural patterning and process, associative-functional data, spatial associations, archeological-historical correlation, environmental data, negative data, direct historical data, and artifact-feature data. The more of these data areas that can be associated with a provenience unit the more value that unit is likely to have toward a synthesis statement. Only those units with high research priority have been dealt with in this report. Archeology, and all science is a selective process, and this presentation of evaluated provenience data is a step toward systematizing our selectivity so that synthesizing statements can emerge from the most useful data revealed on the site (Appendix I).

Excavation Method

The archeological process may be separated into eight phases: 1) Site Survey, 2) Exploratory Excavation, 3) Detailed Excavation, and 4) Expansive, Large Scale Excavation. These four phases are concerned with the *excavation* of archeological data. The remaining four phases deal with the *explication* of the data. These explication phases are 5) Analysis (the separation of a whole into its component parts), 6) Synthesis and Interpretation (the integration of a whole from its component parts), 7) Explanation of the Culture Process Reflected by the Data, 8) Explanatory Exhibits of the Archeological Site (South 1974).

The Fort Moultrie exploratory archeology project is, therefore, a Phase 2 operation, concentrating on the recovery of architectural data in plan, with only a minimum amount of Phase 3 (detailed excavation) involved. In the process of executing this Phase 2, exploratory project, over 1000 cubic yards of soil were removed. In this report the emphasis in the *explication* of the data has been on Phase 6 (synthesis and interpretation), with the view of gaining insights into the explanation of the culture process reflected by the data (Phase 7).

Trenches 2 through 5 were excavated as control trenches and were examined using hand labor. The remainder of the trenches were excavated using a backhoe. When the backhoe was used above the midden deposit layers of the first and second forts, the layers above the midden layer were removed by machine, with the "E" layer of midden removed by hand labor, after being carefully trowelled clean.

The materials from the hand dug stratigraphic control trenches were sifted through a 3/8" mesh screen using power sifters and water hoses to wash the objects before they were placed in boxes for removal to the laboratory. Soil samples were collected from some

units, but no flotation for recovery of micro-botanical and micro-faunal analysis was undertaken, since such an operation can best be done under the more detailed Phase 3 approach, that is planned for the site at a future time.

As the water table was reached, from three to four feet in depth below present surface, pumps were required to lower the water table enough to allow for reading of archeological layers and features. Once the water table was lowered, however, such features were easily seen when the surfaces were carefully cleaned. The well-points were water-jetted into place using portable water pumps, with three to four well points spaced ten feet apart in the trench and operated from a single pump. At night the pumps were disconnected and taken inside for protection and the water table would rise, causing cave-ins of the profile walls. As the pumps again lowered the water table each day careful cleaning of the area was again required to prevent contamination of the provenience layers being examined. The Phase 3 and 4 project recommended for further examination of the site will not be faced with this problem, since under such a broad scope project a well-point *system*, operating electric pumps 24 hours a day would be used instead of the limited scope procedure used in this exploratory project.

From the study of the profiles in this report (Fig. 8), it can be seen, by comparing the old occupation surfaces, that the water table at the present time is over one foot higher than it apparently was two hundred years ago. This was at first thought to relate to the effect of many feet of soil having accumulated over the old surfaces, thus raising the ground water table. In discussing this problem with Dr. Reynold J. Ruppé, of Arizona State University, who

is making a study of the rise in sea level in recent centuries, he states that there is good evidence that, during the past two hundred years sea level has risen and that the water table rise at Fort Moultrie may well reflect a sea level rise since the Revolution.

Analysis and Synthesis

The theoretical orientation of this report emphasizing integrative synthesis rather than descriptive analysis has resulted in there being no "analysis" section set apart from other parts of the presentation. Analysis of specific data is conducted at that point in the presentation where it will contribute most effectively to an integrative statement. The various analyses conducted here are illustrated, such as in Figure 60, as synthesis statements rather than as descriptive analyses. Therefore the analysis of the archeological-architectural-historical-artifact data is, even in its most descriptive aspects, directed toward broader interpretive synthesis.

Recommendations

From the data revealed in this exploratory project reconstructive designs of the first fort have been drawn in plan and profile, and interpretive renderings have been provided. This data should be of use to the National Park Service sponsors of the project toward the goal of preservation-restoration-interpretation of the Fort Moultrie Site as an historical monument. Recommendations for further research as well as for resource conservation have been included as a chapter of this report.

Acknowledgements

Throughout the Fort Moultrie exploratory project, from field work

through the analysis, and into the preparation of the final report, I have been greatly aided by Michael Hartley, my Archeological Assistant. Mike was able to command the respect of the field crew, and carried out the duties of assistant archeologist with competence. Several phases of the analysis and synthesis of data were handled almost entirely by Mike, and the illustration of artifacts was accomplished through his drawings. He also drew the interpretive, reconstructive designs of the First Fort Moultrie seen in Figures 1 and 2.

I am also indebted to Susan Jackson, my Data Recording Assistant in the field, whose observations and profile drawings (Figs. 8 and 9), were basic elements in the data recovery process (Appendix 1).

Travis Bianchi, an Archeological Assistant, was helpful as a field assistant, particularly with the well point logistics, and in providing some of the research data necessary for some of the syntheses carried out in the report.

The field crew at Fort Moultrie was an excellent group who worked together, and lived together in harmony, toward a common goal, the recovery of archeological data. Everette Baker was an Assistant Archeologist, who handled well the responsibility for the well points and pumps, a vital aspect of the project, as well as functioning in many other capacities as an assistant. Other members of the crew most important to the success of the project were Ken Culpepper, Allen Hinnant, John Prescott, and Carl Southard. A special thanks is due the cook for the project, Elly Johnson, who kept the crew well fed, and who provided refreshing coffee breaks during those cold December mornings when the wind blew cold from Charleston Bay.

The regular laboratory staff of the Institute of Archeology and

Anthropology are deserving of sincere thanks for their assistance in many ways: help with cataloguing was provided by Leslie Beuschel, Laboratory Supervisor, and her crew of catalogers and washers of artifacts. Jim Frierson, Illustrator, assisted with drafting some of the plates for the report, for which we are most grateful. Typists who worked diligently on preparation of the manuscript were Sandy Anderson, Alice Boggs, and Clarrusha Keels, who also handled a great deal of the proofreading. Thanks are also due to Wayne Neighbors, Conservator, who preserved the iron objects from the site, and to Gordon Brown, Photographer, and James Rhett, Photographic Assistant, for printing the photographs, and to Maryjane Rhett, Research Assistant, for collating the manuscript copies.

A considerable debt is owed to John Combes, Leland Ferguson, and Dick Carrillo, Archeologists at the Institute of Archeology and Anthropology, who have provided many hours of patient listening, and valuable suggestions toward the conceptual base upon which this report was constructed. I am indebted to Leland Ferguson for writing the foreward for this report, and for his most helpful critical evaluation of the manuscript.

Thanks are due also to Robert L. Stephenson, Director of the Institute of Archeology and Anthropology, for his support throughout the project, and for his valuable assistance in conducting the analysis of the faunal material from the site. I would also like to thank Bob for reading the first draft and making many valuable suggestions.

I would like to thank Dick Carrrillo, Archeologist and Joan Combes, Systems Analyst for the Computer Services at the University of South Carolina, for their statistical treatment of the mean ceramic date

formula data from Fort Moultrie, along with data from other sites, in order to produce the refined version, which produces a statistically valid projected mean occupation date represented by the ceramic sample (Fig. 51).

I am particularly grateful to those individuals who kindly offered their help in the form of research information through personal communication. These are Ivor Noël Hume, Director, Department of Archaeology, Colonial Williamsburg; Francis A. Lord, Curator of Historical Collections, University of South Carolina Museum; Dorothy Griffiths, Ceramics Analyst, National Historic Parks and Sites, Ottawa, Ontario, Canada; James L. Haynsworth, President, South Carolina Genealogical Society; Bradford Rauschenberg, Assistant Director of Research, Old Salem, North Carolina; Reynold J. Ruppé, Department of Anthropology, Arizona State University; William Harris, Superintendent, Fort Sumter National Monument; Percival Petit, Author, and South Carolina historian; Alan Albright, Underwater Archeologist, Institute of Archeology and Anthropology; Lee Hanson, Archeologist, Fort Stanwix National Monument; Harold Peterson, Chief Curator, National Park Service; Elias Bull, Historic Preservation Planner, Berkeley-Charleston-Dorchester Regional Planning Council; and Linda Ferguson, Department of Anthropology, University of Idaho. Particular thanks are due to research help provided by Edwin C. Bearss, Division of History, Office of Archeology and Historic Preservation, National Park Service, whose three volumes of historical research were invaluable in providing background data for this project, and who provided help through personal communication and competent professional support throughout the project.

I would like to thank Mrs. George Walker for her kind permission to allow us to dig exploratory trench #106 on her property in our effort

to determine the extent of the timbers in the area east of the Third Fort Moultrie.

Hardly a day passed during the project without Mr. C. Bryan Rowell, Commissioner and Chairman of the Streets, Sanitation and Drainage Committee being on the site to see the progress of our work. He and other members of the Sullivan's Island Board of Township Commissioners are to be thanked for their cooperation in allowing excavation of several exploratory trenches on the property under their supervision. Thanks are also due to Waterworks Commissioner Sally J. Scott for cooperation in providing instruction through John Leo Truesdell in the ways of well points and pump systems.

During our stay at the Fort Sumter National Monument, William Harris, Park Superintendent, provided us with sincere cooperation, and good cheer. Bill, and Melvin Baker, Maintenance Foreman, watched with reasonable good humor as the archeological crew did a good job of destroying the landscaped beauty of the site, with holes and large piles of dirt. Bill was also of help in logistic matters involving procuring pumps, well points, and machinery for the project.

During the field excavation of Fort Moultrie there were many visitors from the National Park Service, archeologists, historians, architects, administrators, and planners who came to provide their advice, and to indicate their concern for the project. George Fischer, Archeologist for the National Park Service, was on hand on several occasions, and helped in procuring badly needed water pumps and well points. George's help is appreciated. John Walker and Richard Faust, of the Tallahassee office of the National Park Service were most helpful in administrative negotiation.

After the project was completed, and the report was being written a second expedition was carried out by Dick Ping Hsu and John Ehrenhard, archeologists for The National Park Service. This expedition helped to answer some questions not answered in the exploratory project.

Finally, I would like to thank my wife, Jewell, and my children, Robert and Lara, for their patience in the nine months during which I was virtually absent from home as a result of this project. I am also indebted to Jewell for her help with preparing the Index, and to Sandy Anderson for assisting with its final revision.

Stanley South
Columbia, South Carolina
December 1974

II

EXPLORATORY ARCHEOLOGY TO THE EAST OF THE THIRD FORT MOULTRIE

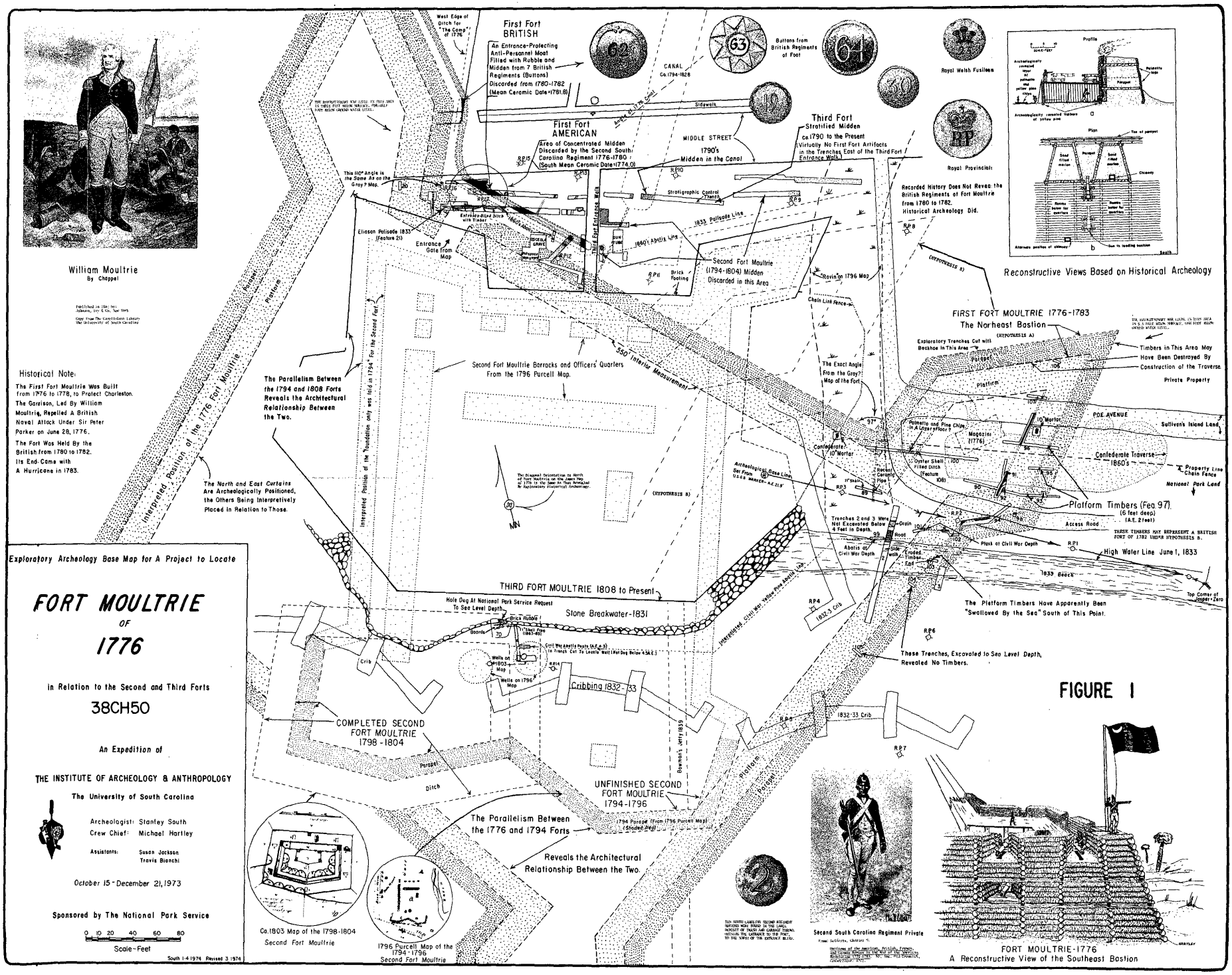
EXCAVATION

Exploratory bachhoe trenches were cut in the area to the east of the Third Fort Moultrie to locate the Revolutionary War Period ground level and hopefully find evidence for the 1776-1782 First Fort Moultrie (Fig. 1). Bearss had presented an hypothesis as to the location of the First Fort Moultrie, based on historical research, stating that "...the north curtain of Fort Moultrie, Number 3, is located on or near the north curtain of Fort Moultrie, Number 1 (Bearss 1968a:78). He conjecturally placed the northeast bastion to the east of, and parallel with,the northeast bastion of the Third Fort Moultrie (Bearss 1968a:Plate VII;Figure 7, this report). This conjectured location of the northeast bastion was on what is now private property, and to avoid encroachment on this area, the exploratory backhoe trenches were cut two hundred feet to the south on National Park Service property. In this area it was expected that evidence for the east curtain wall ditch might be found.

The trenches revealed two parallel rows of squared, hewn timbers at a depth of six feet, separated by a distance of twenty-five feet. These timbers formed two obtuse angles, and were seen to extend for 175 feet in a northeast-southwest orientation (Fig. 1). From the interpretive positioning of the First Fort Moultrie on these timbers and paralleling the ditch found to the north of the northwest bastion of the Third Fort Moultrie as seen in Figures 1 and 2, it was seen that these timbers might represent the east salient angle, reentering

FIGURE 1

Exploratory archeology base map for the project to locate Fort Moultrie of 1776, in relation to the second and third forts. On this map two hypotheses are offered as to the position of the northeast bastion of the First Fort Moultrie. The position of the Second Fort Moultrie is determined through the documents, and the Third Fort Moultrie location was established by transit readings and measurements of the existing fort.


Exploratory Archeology Base Map for A Project to Locate
FORT MOULTRIE
OF
1776
in Relation to the Second and Third Forts
38CH50
An Expedition of
THE INSTITUTE OF ARCHEOLOGY & ANTHROPOLOGY
The University of South Carolina
Archeologist: Stanley South
Crew Chief: Michael Hartley
Assistants: Susan Jackson
Travis Bianchi
October 15 - December 21, 1973
Sponsored by The National Park Service
0 10 20 40 60 80
Scale-Feet
South 1-4-1974 Revised 3-1974
William Moultrie
By Chappel
Historical Note:
The First Fort Moultrie Was Built from 1776 to 1778, to Protect Charleston.
The Garrison, Led By William Moultrie, Repelled A British Naval Attack Under Sir Peter Parker on June 28, 1776.
The Fort Was Held By the British from 1780 to 1782.
Its End Came with A Hurricane in 1783.
Interpreted Position of the 1776 Fort Moultrie
Parapet
Platform
The North and East Curtains Are Archeologically Positioned, the Others Being Interpretively Placed in Relation to Those.
West Edge of Ditch for "The Camp" of 1776
First Fort BRITISH
An Entrance-Protecting Anti-Personnel Moat Filled with Rubble and Midden from 7 British Regiments (Buttons) Discarded from 1780-1782 (Mean Ceramic Date=1781.8)
CANAL Ca.1794-1828
Buttons from British Regiments of Foot
Royal Welsh Fusileers
Royal Provincials
Sidewalk
First Fort AMERICAN
Area of Concentrated Midden Discarded by the Second South Carolina Regiment 1776-1780 (South Mean Ceramic Date=1774.0)
MIDDLE STREET
1790's Midden in the Canal
Third Fort Stratified Midden
Ca.1790 to the Present
(Virtually No First Fort Artifacts in the Trenches East of the Third Fort Entrance Walk)
Recorded History Does Not Reveal the British Regiments of Fort Moultrie from 1780 to 1782. Historical Archeology Did.
This 110° Angle is the Same As on the Gray? Map.
Stratigraphic Control Trench
1833 Palisade Line
1860's Abatis Line
Eliason Palisade 1833 (Feature 21)
Entrance Gate from Map
Second Fort Moultrie (1794-1804) Midden Discarded in this Area
Brick Footing
Ravin on 1796 Map
Chain Link Fence
Reconstructive Views Based on Historical Archeology
FIRST FORT MOULTRIE 1776-1783
The Northeast Bastion
(HYPOTHESIS A)
Exploratory Trenches Cut will Backhoe in This Area
Timbers in This Area May Have Been Destroyed By Construction of the Traverse.
Private Property
The Parallelism Between the 1794 and 1808 Forts Reveals the Architectural Relationship Between the Two.
Second Fort Moultrie Barracks and Officers' Quarters From the 1796 Purcell Map.
350' Interior Measurement
The Exact Angle From the Gray? Map of the Fort
Palmetto and Pine Chips in A Layer of Floor?
Magazine (1776)
POE AVENUE
Sullivan's Island Land
Confederate 10" Mortar
Confederate Traverse 1860's
Property Line Chain Fence
National Park Land
Oyster Shell Filled Ditch (Feature 108)
Platform Timbers (Feq 97) (6 feet deep) (A.E. 2 feet)
Access Road
Trenches 2 and 3 Were Not Excavated Below 4 Feet in Depth
THESE TIMBERS MAY REPRESENT A BRITISH FORT OF 1782 UNDER HYPOTHESIS B.
Abatis of Civil War Depth
Plank of Civil War Depth
High Water Line June 1, 1833
1833 Beach
Top Corner of Upper-Zero
The Platform Timbers Have Apparently Been "Swallowed By the Sea" South of This Point.
THIRD FORT MOULTRIE 1808 to Present
Hole Dug At National Park Service Request To Sea Level Depth
Stone Breakwater-1831
Interpreted Civil War Yellow Pine Abatis Line
1832-3 Crib
These Trenches, Excavated to Sea Level Depth, Revealed No Timbers.
Wells on 1803 Map
Wells on 1796 Map
Cribbing 1832-33
Crib
COMPLETED SECOND FORT MOULTRIE 1798-1804
Parapet
Ditch
Bowman's Jetty 1833
UNFINISHED SECOND FORT MOULTRIE 1794-1796
1796 Parapet (From 1796 Purcell Map) (Shaded Area)
The Parallelism Between the 1776 and 1794 Forts
Reveals the Architectural Relationship Between the Two.
Ca.1803 Map of the 1798-1804 Second Fort Moultrie
1796 Purcell Map of the 1794-1796 Second Fort Moultrie
Second South Carolina Regiment Private
FIGURE 1
FORT MOULTRIE-1776
A Reconstructive View of the Southeast Bastion

NOTE*******

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OR MAP WHICH IS TOO LARGE FOR 16mm MICROFILMING.

SEE 35mm MICROFICHE AT THE END OF REPORT

angle and the curtain wall of the northeast bastion of the First Fort Moultrie (Muller 1746:216,229-230). The position of this bastion is exactly the distance (65 feet) east of the Third Fort Moultrie suggested by Edwin Bearss in his hypothesis, but is two hundred feet south of his conjectured location. The following is a summary of the data suggesting the interpretation of these timbers as a part of the northeast bastion of the First Fort Moultrie. The interpretation emerging from this data has been referred to as Hypothesis A (Fig. 1).

Architectural Data

The square-cut parallel timbers measure 1.1 feet across, and .9 feet in depth in Trench 90, and were designated as Feature 91. The surface of the timber was corrugated from being submerged in water, and hewn, ax-cut marks could be seen. In Trench 90 a diagonal mortise .5 feet in depth and one foot wide was cut into the top of the westernmost timber, apparently to receive a tenon of another timber of similar size (Figs. 1,10,12). The timber extended toward the south from this mortised notch a distance of 5.8 feet, where it ended in an ax-hewn cut. The distance from the north edge of the notch to the timber found paralleling the angle of the notch to the south was twenty-five feet, providing additional evidence that a parallel timber was once tenoned into this mortised notch (Fig. 1). The distance between the outer edges of the two parallel timbers in Trench 90 was 24.7 feet. The wood was quite solid wherever it was found, and could easily be located with the probe whenever five feet of overburden had been removed. The timbers were normally beneath a foot of ground water, and could only be seen when the water table had been lowered enough to reveal them.

In Trench 90, a few feet north of the notched westernmost timber, a single brick was found, lying on the timber parallel with the east edge, while other bricks were scattered in a pile toward the east. These bricks were whole, and showed no sign of mortar adhering to them or in the soil around them, as though they had once, perhaps, been dry laid on the timber. Bricks are often thought by laymen to be very diagnostic in dating archeological ruins, but in fact, the basic size of brick has varied little from at least 1260 A. D. into the nineteenth century (South 1964:71). A comparison of the size of the bricks associated with the First Fort Moultrie with those used in the Third Fort Moultrie reveals that both measure approximately 9 by 4 1/2 by 2 1/2 inches, and are composed of the same wine-red clay with darker wine inclusions, thus eliminating the possibility of using bricks as diagnostic criteria to separate the First, Second, or Third Forts Moultrie.

In interpreting the timbers under Hypothesis A, as part of the First Fort Moultrie, the salient bastion face is represented by the two parallel timbers extending for at least 100 feet in a northeast direction, almost parallel with the northeast salient bastion face of the Third Fort Moultrie (Fig. 1). The reentered face is represented by the southernmost timber of the pair, with the north timber missing from the notch that once held it. This bastion face almost parallels the reentered angle of the Third Fort Moultrie.

The curtain wall was represented by the easternmost timber, with the western timber not being revealed through exploratory trenching. This curtain wall timber almost parallels the line of the southeast angle of the Third Fort Moultrie and was found to extend only 42 feet

FIGURE 2

Exploratory archeology in the entrance gate area of Fort Moultrie of 1776 to 1783, north of the Third Fort Moultrie. Excavation in this area revealed abundant evidence for the occupation of the site by the American and British forces during the Revolution.

Exploratory Archeology In the

ENTRANCE GATE AREA OF FORT MOULTRIE Of 1776 to 1783

North of the Third Fort Moultrie

(38CH50)

Charleston County, South Carolina

October 15 - December 21, 1973

An Expedition of

THE INSTITUTE OF ARCHEOLOGY & ANTHROPOLOGY

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Archeologist: Stanley South

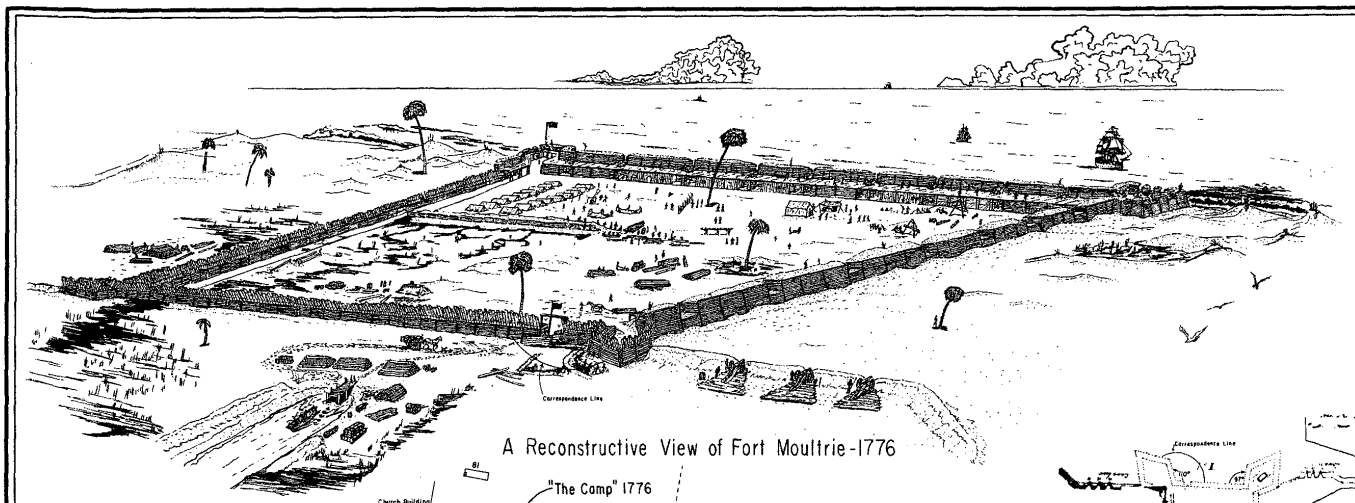
Crew Chief: Michael Hartley

Assistants: Susan Jackson, Travis Bianchi

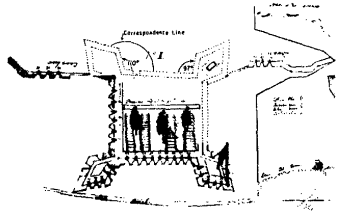
Analysis Assistant: Michael Hartley

Sponsored By the National Park Service

South 4-1974



A Reconstructive View of Fort Moultrie-1776



A Part of the Gray? Map of Fort Moultrie*

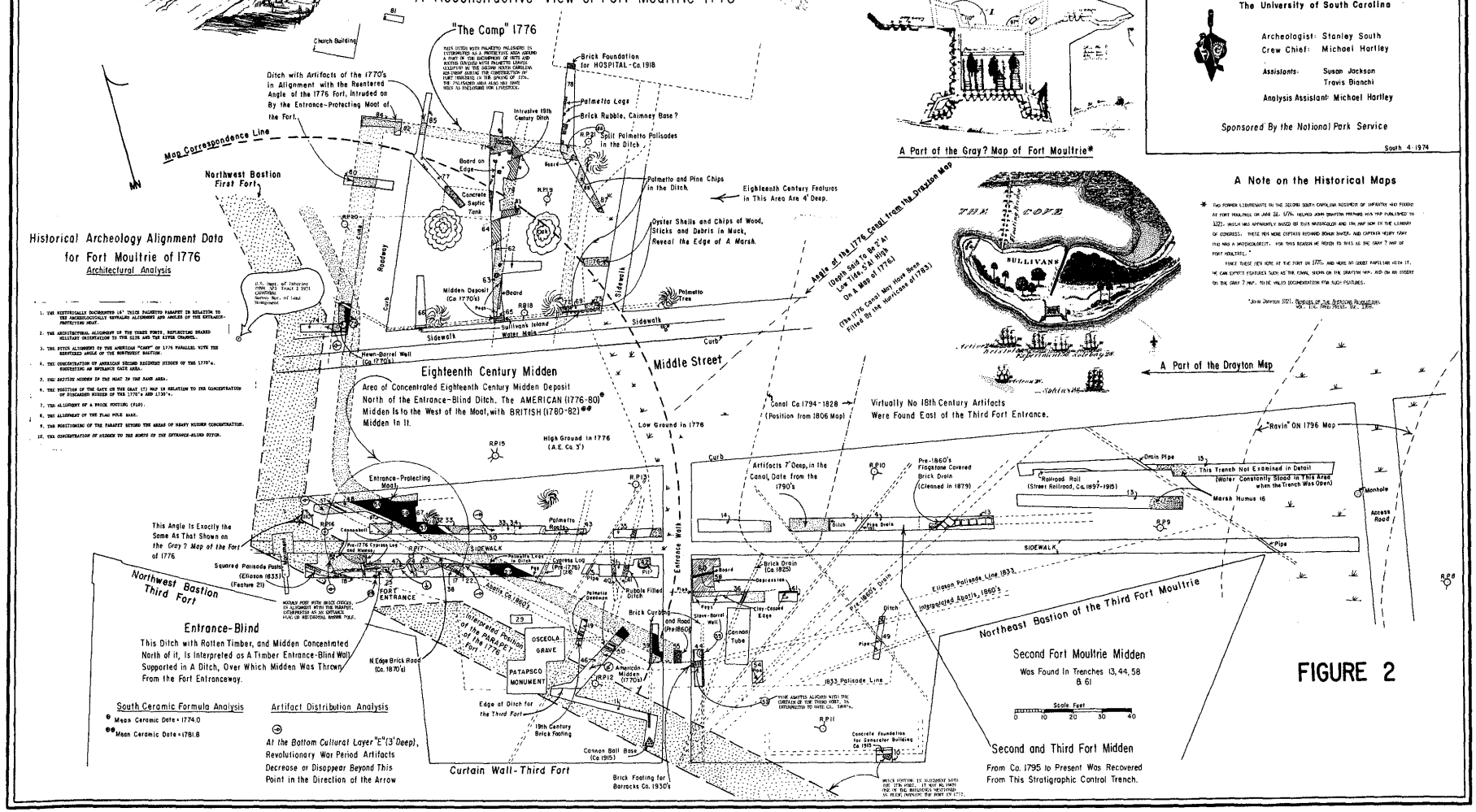
A Part of the Drayton Map

A Note on the Historical Maps

* TWO FORMER LIEUTENANTS IN THE SECOND SOUTH CAROLINA REGIMENT OF INFANTRY AND FIGURE AS FORT MOULTRIE ON JUNE 28, 1776. HELPED JOHN DRAYTON PREPARE HIS MAP PUBLISHED IN 1821. WHICH WAS APPARENTLY BASED ON BLUE WATERCOLOR AND INK MAP NOW IN THE LIBRARY OF CONGRESS. THESE MEN WERE CAPTAIN RICHARD BOHAN SMITH AND CAPTAIN HENRY GRAY. HE WAS A WATERCOLORIST. FOR THIS REASON WE REFER TO THIS AS THE GRAY ? MAP OF FORT MOULTRIE.*

SINCE THESE MEN WERE AT THE FORT IN 1776, AND WERE ON QUITE FAMILIAR WITH IT, WE CAN EXPECT FEATURES SUCH AS THE CANAL SHOWN ON THE DRAYTON MAP, AND ON AN OBJECT ON THE GRAY ? MAP, TO BE VALID DOCUMENTATION FOR SUCH FEATURES.

*JOHN DRAYTON 1821. MEMOIRS OF THE AMERICAN REVOLUTION. VOL 1 (S.C. RARE PRESS, INC. 1969.



Historical Archeology Alignment Data for Fort Moultrie of 1776

Architectural Analysis

1. THE HISTORICALLY INCORRECTLY 16' THICK PALMETTO PARAPET IN RELATION TO THE ARCHEOLOGICALLY REVEALED ALIGNMENT AND ANGLES OF THE ENTRANCE-PROTECTING MOAT.
2. THE ARCHITECTURAL ALIGNMENT OF THE THREE FORTS, REFLECTING SHARED MILITARY ORIENTATION TO THE SEA AND THE RIVER CHANNEL.
3. THE DITCH ALIGNMENT OF THE AMERICAN "CAMP" OF 1776 PARALLEL WITH THE REENTERED ANGLE OF THE NORTHWEST BASTION.
4. THE CONCENTRATION OF AMERICAN BRIGHT REFORMED HINGES OF THE 1770's, INDICATING AN ENTRANCE GATE AREA.
5. THE BRITISH MIDDEN IN THE MOAT IN THE SAND AREA.
6. THE POSITION OF THE GATE OR THE GRAY (?) MAP IN RELATION TO THE CONCENTRATION OF DISCARDED HINGES OF THE 1770's AND 1780's.
7. THE ALIGNMENT OF A BRICK FOUNDATION (FIG).
8. THE ALIGNMENT OF THE FLAG POLE BASE.
9. THE POSITIONING OF THE PARAPET BEYOND THE AREAS OF HEAVY MIDDEN CONCENTRATION.
10. THE CONCENTRATION OF MIDDEN TO THE NORTH OF THE ENTRANCE-BLIND DITCH.

South Ceramic Formula Analysis

* Mean Ceramic Date = 1774.0

** Mean Ceramic Date = 1781.8

Artifact Distribution Analysis

At the Bottom Cultural Layer "E" (3' Deep), Revolutionary War Period Artifacts Decrease or Disappear Beyond This Point in the Direction of the Arrow

FIGURE 2

NOTE*******

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OR MAP WHICH IS TOO LARGE FOR 16mm MICROFILMING.

SEE 35mm MICROFICHE AT THE END OF REPORT

from its junction with the reentered angle timber, at which point it ended in an apparently eroded snag end (this end could be felt beneath water, but not actually seen) (Fig. 1).

Evidence possibly representing the west side of the bastion was revealed when Trench 100 was cut for this purpose (Fig. 1). In this trench the wooden timbers were not found, but a ditch, 1.7 feet wide, filled with oyster shells was found (Feature 108). The angle of this ditch indicates that it may well represent a ditch once associated with one of the timbers, with the oyster shells perhaps serving to support the timber in marshy soil. The parallel timbers, and this oyster shell filled ditch have been used to suggest the size of the northeast bastion of the First Fort Moultrie, and the results of these architectural data can be seen outlined as Hypotheses A in the Archeological Base Map (Fig. 1).

Archeological Data

The exploratory trenches revealed five types of soil layers and feature data, 1) old natural humus layers on which occupation by man occurred, and on which artifacts from that occupation were found lying, 2) layers of sand deposited by wind, or ocean storms sweeping across Sullivan's Island, and 3) culturally deposited sand fill layers from construction of fortifications, primarily during the Civil War Period. 4) A fourth type is a cultural layer resulting from midden deposits thrown onto an old humus layer, 5) with cultural features such as ditches and postholes forming the fifth type of data. These types of data can be seen as forming two classes, archeological data with cultural clues from man's occupation and non-cultural data formed by natural processes of wind or water. The timbers discussed in the previous architectural

Figure 3

The form of the usual eighteenth century fort was a square with a bastion at each corner, which was the shape of the First Fort Moultrie. This illustration is from John Muller's *A Treatise Containing the Elementary Part of Fortification, Regular and Irregular,* published in 1746, Plate 33, Figure 3.

Figure 4

Reconstructive drawing of the 1780 British Redoubt at Charles Towne, manned by Hessians, has a close parallel to the rooms below the platform known to have been at the First Fort Moultrie. At Charles Towne mantelets were used to contain the earth fill, whereas at Fort Moultrie cribbed palmetto logs were employed (South 1971).

Figure 5

A drawing of Redoubt #4 at West Point, New York, by Thaddius Kosciuszko, is a rare view of the rooms below the gun platform seen in forts such as the First Fort Moultrie, and at the redoubt at Charles Towne. Drawing located by Harold Peterson, is presented here through the courtesy of the New York Historical Society, New York, from the McDougall Papers.

Figure 6

A view of the Third Fort Moultrie showing the plan outline, some of which is now obscured by later construction. This map dates from ca. 1860, and is presented here through the courtesy of William Harris, Superintendent of Fort Sumter National Monument, and is from *The Genesis of the Civil War* by S. W. Crawford.

Figure 7

A plan of Fort Moultrie, No. 1, by Edwin C. Bearss, showing its assumed position in relation to Fort Moultrie, No. 3, from Plate VII in (Bearss 1968a). By comparing this hypothetical relationship with the archeologically revealed relationship seen in Figure 1, it can be seen that Bearss was remarkably correct in his suggestion as to the location of the First Fort Moultrie.

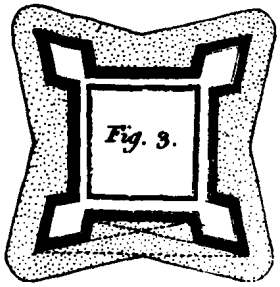


Figure 3

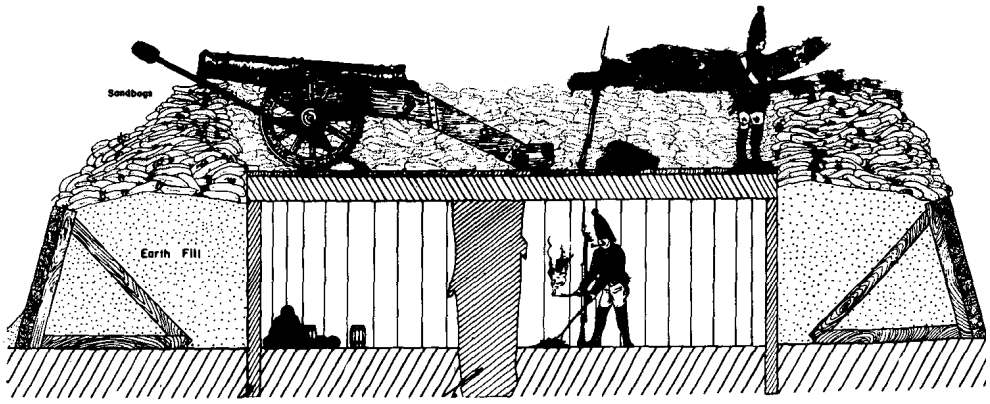


Figure 4

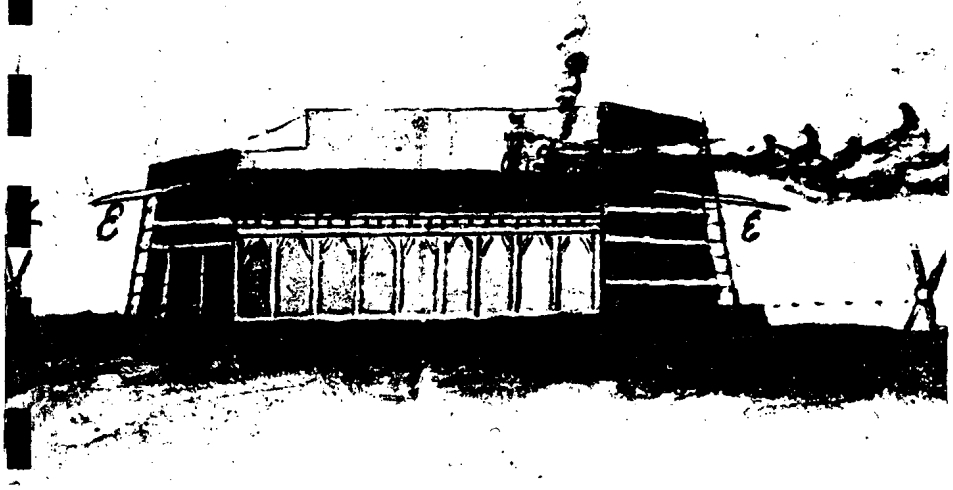


Figure 5

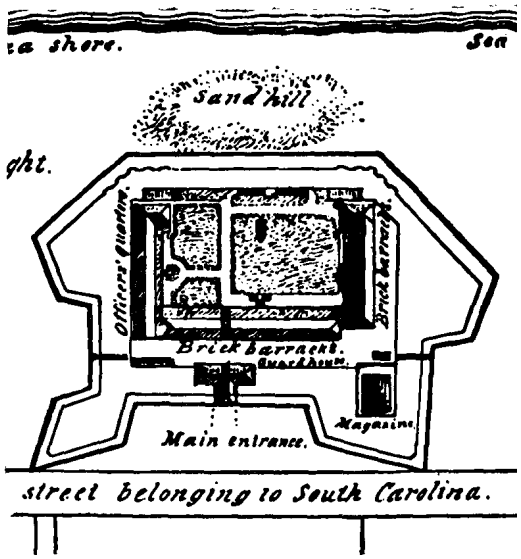


Figure 6

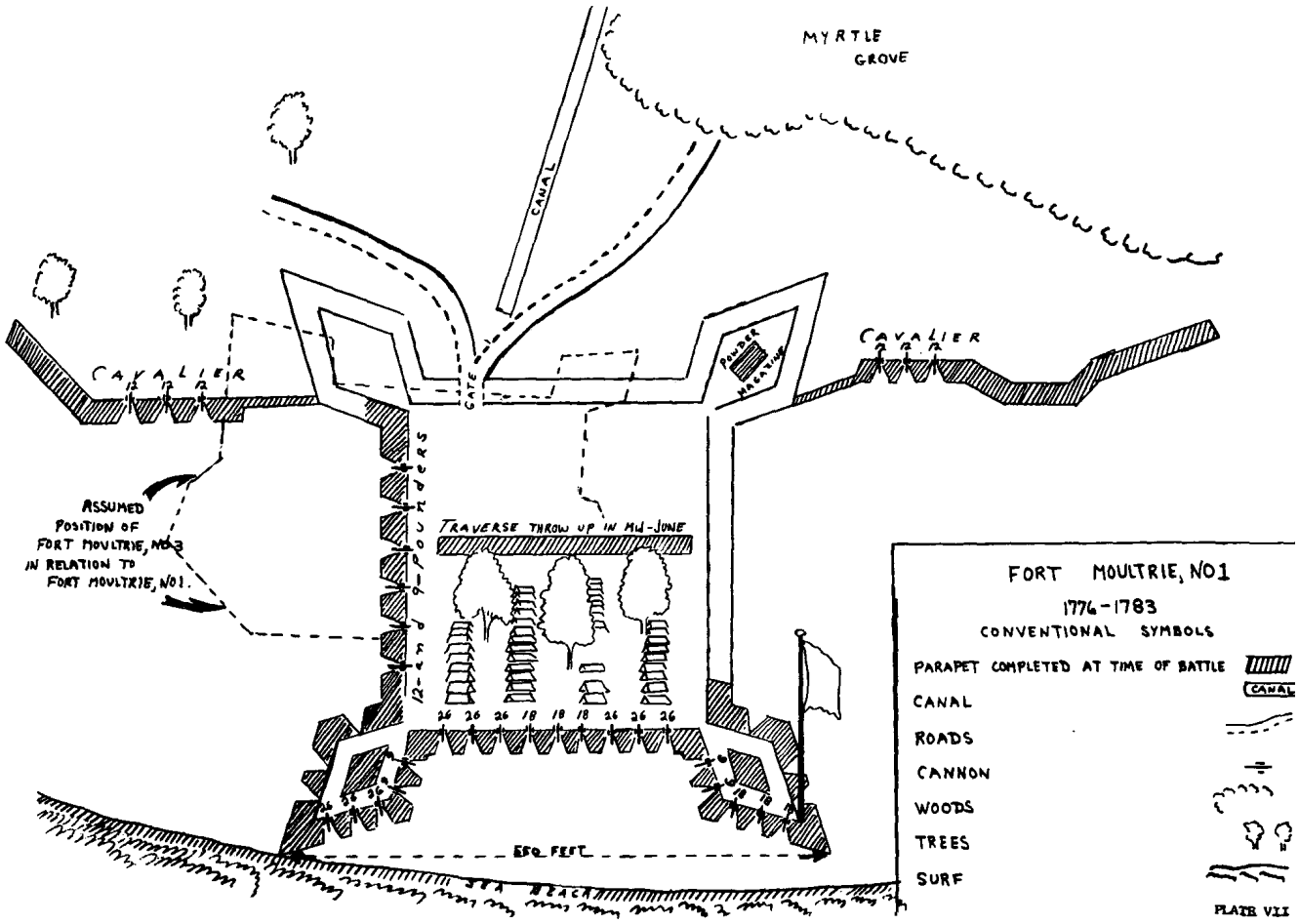


Fig. 7

section are, of course, culturally derived, and are discussed in this section. The relationship between the culturally produced data and non-cultural deposits is discussed in a following section on chronology.

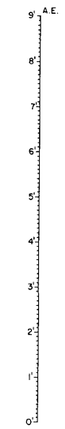
The timbers were lying beneath almost six feet of sand in Trench 90 (Figs. 10,12), and 1.2 feet below water table. A grey sand with humus and wood chips of yellow pine and palmetto was found near the top of the timber (90E) and appeared to be the ground surface zone associated with the timber. However, when a profile cut was made on the west side of the timber there appeared to be no ditch into which the timber was placed, as though the timber had been compressed into the earth after having been placed on the humus layer (Fig. 10). However, on the north side of Trench 90 a profile cut was made in an attempt to discover any associated ditch, and on the east side of the timber a slight disturbance was seen extending toward the east a distance of 2.5 feet to the depth of the bottom of the timber. The ditch and the timber were designated as Feature 91 (Figs. 1,12). The water level was difficult to control at this depth, and observation of this disturbance, apparently associated with the timber on the east side, was made under the most adverse conditions. Hopefully a more complete examination of the relationship of this disturbance to the timber can be undertaken in future Phase 3 excavation projects planned for this area. This disturbance appeared to be as deep as the timber, and contained some whole bricks as well as animal bone fragments, ceramics and wood chips. These objects are important to the interpretation of the temporal period represented by the timbers. The presence of such objects in the ditch would tend to indicate that trash was being discarded in the area during the time the ditch stayed open, or prior to the excavation of the ditch.

The grey-humus zone associated with the timber (90E) apparently represented the ground surface zone at the time the timbers were placed in position, and therefore objects recovered from this zone should help in determing the date of the timbers.

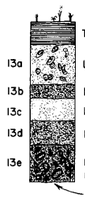
The grey-humus layer (90E) contained 21 sherds of creamware (Noël Hume 1970:126-28) and two sherds of "Jackfield" ware (Noël Hume 1970:123) manufactured from the period around 1740 to around 1820 (South 1972:85). The ditch beside the timber contained bricks, bone fragments, 11 creamware fragments (Noël Hume 1970:126-28), 4 grey Westerwald stoneware fragments (Noël Hume 1970:284-85), manufactured from the period around 1700 to 1820 (South 1972:85). This ditch also contained wrought iron nails, a fragment of wine bottle glass, and chips of yellow pine and palmetto (Brad Rauschenberg, Old Salem Inc., personal communication). Other trenches to the north of Trench 90 also contained this "E" layer of humus and wood chips resulting, apparently, from the cutting and notching of many logs, for in some places there was a solid bed of wood chips. The palmetto chips would indicate that logs of this material were being prepared at the same time as those of yellow pine, though no palmetto logs were seen *in-situ* in the trenches in this area.

Chronological Data

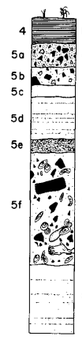
The manufacture period of the ceramic types listed above associated with the timbers is not enough in itself to allow us to fix a very restricted date for the likely positioning of the timbers beyond the general association of creamware with the 1770's. The *absence* of ceramic types occurring later, however, allows us to make a good guess as to the likely time period involved. The absence of pearlware,



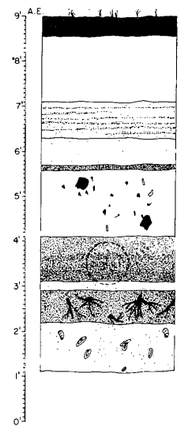
North Profile-Trench 13



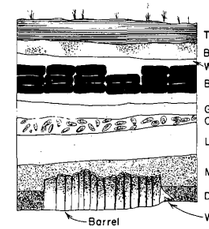
North Profile-Trench 5



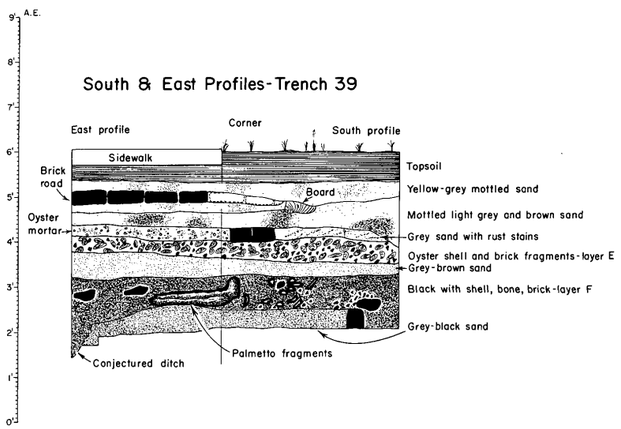
North Profile-Trench 89



East Profile-Trench 44



South & East Profiles-Trench 39

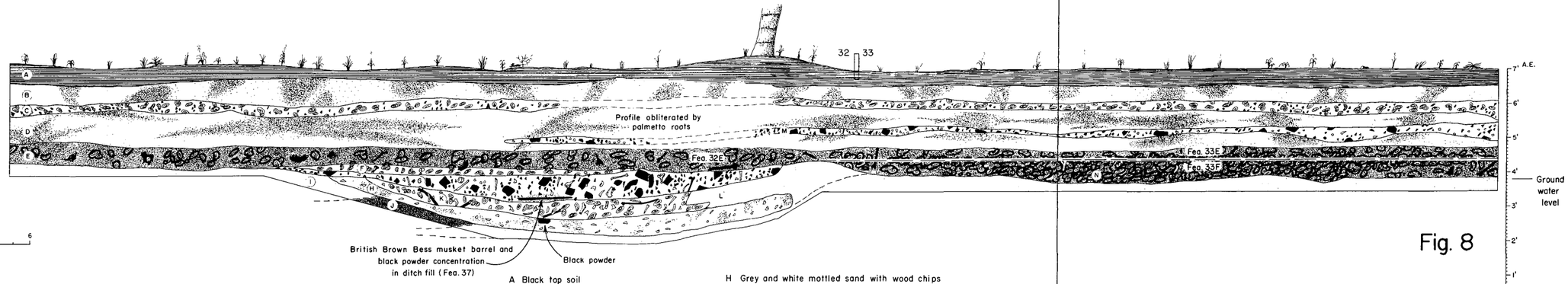


Stanley South, Archeologist
Susan Jackson, Field Assistant
James Frierson, Draftsman

Institute of Archeology and Anthropology
University of South Carolina

Profiles from Exploratory Archeology at Fort Moultrie (38CH50)

North Profile-Trench 32-33

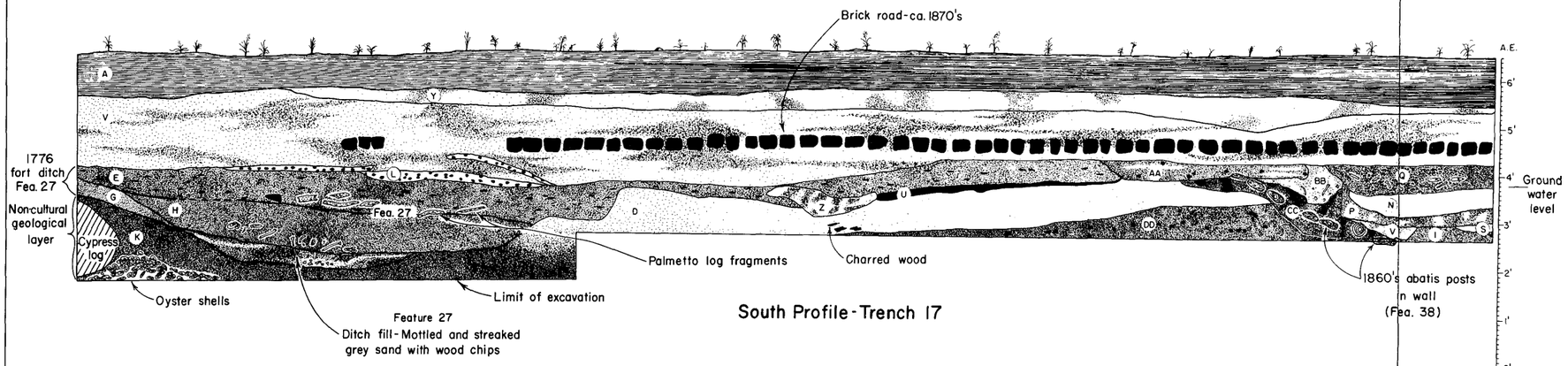


0 5 1 2 3 4 5 6
Scale-feet

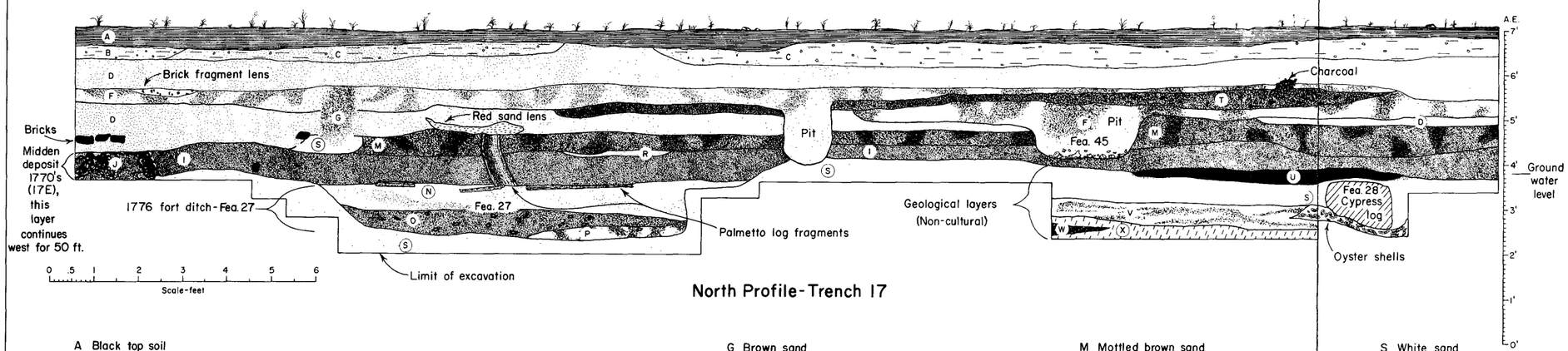
A Black top soil
B Brown-orange mottled sand
C Oyster shells and brick fragments
D Striated brown and grey sand
E Black oyster shell and artifacts-layer E
F Oyster shell layer
G Brick rubble, glass, bone
H Grey and white mottled sand with wood chips
I White sand
J Blue-black sand
K Oyster, metal, glass, bone
L Light grey sand
M Rubble layer
N Oyster fill-layer F

Fig. 8

April 1974



South Profile-Trench 17



North Profile-Trench 17

(38CH50)

Archeological Profiles of the Fort Ditch for the 1776 Fort Moultrie

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Susan Jackson, Field Assistant
James Frierson, Draftsman

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University of South Carolina

Fig. 9

A Black top soil
B Orange clay with pebbles
C Grey clay with pebbles
D Light grey sand
E Dark brown layer with charcoal flecks, palmetto fragments, clam, brick-layer of destruction of palmetto fort
F Mottled orange and light brown sand
G Brown sand
H Brownish-grey sand with bone, oyster shell, wood chips
I Dark grey with no shell, bone, etc.
J Dark oyster and bone midden deposit (1770's)
K Blue grey barred sand-natural layer
L Charcoal flecked areas
M Mottled brown sand
N Mottled grey and white sand
O Dark grey sand with wood chips
P White and dark grey mottled sand
Q Dark grey sand with bone, shell, glass, metal
R Yellow sand
S White sand
T Darker brown sand with charcoal flecks
U Black humus
V Brown and grey sand
W Black clay muck
X Blue sand
Y Mottled yellow sand
Z Mottled black and white sand
AA Grey sand with white streaks and charcoal
BB Light brown sand with rubble and bone
CC Dark mottled grey-brown sand
DD Dark grey sand with charcoal flecks

March 1974

a type that occurs on sites after 1780 in British-America allows us to suggest a date prior to the 1780's for the ceramics associated with this timber (Noël Hume 1970:128-29; South 1972:85). The ceramics then, are the type we would expect to find associated with an occupation prior to 1780, and nothing else suggests a later date.

When we examine the stratigraphic position of the timbers we find that they were placed in position at an elevation of only two feet above sea level (Fig. 10).

The level at which the artillery shells from the Civil War Period of the 1860's were found is three feet higher than the position of the timbers. Absolutely no objects dating later than the 1770's were found in the layer directly associated with the timbers or the layer above them (Figs. 10,17). The archeological associations of these timbers are, therefore, only those of the period of the Revolution.

The archeological profiles of the trenches in the area east of the Third Fort Moultrie clearly reveal a history of water, wind and culturally deposited sand (Figs. 8,10,12,14,16). Figure 10 reveals the stratigraphic cut above the west timber in Trench 90. The cultural layers are represented by the dark humus and clay topsoil layer capping the area (Fig. 10,Layer A). Beneath this is a uniform layer of yellow or white sand showing no sign of layering. This characteristic indicates that this sand was placed in position by other forces than wind and water, and is therefore a cultural layer and not geological in the usual sense. Layer B (Fig. 10) is resting on a level that contains objects from the Civil War Period such as artillery shells, nails, bolts, etc. (Figs. 17,20). Layers C and D, below this level are horizontally banded, a clear indication of ocean laid sand. This

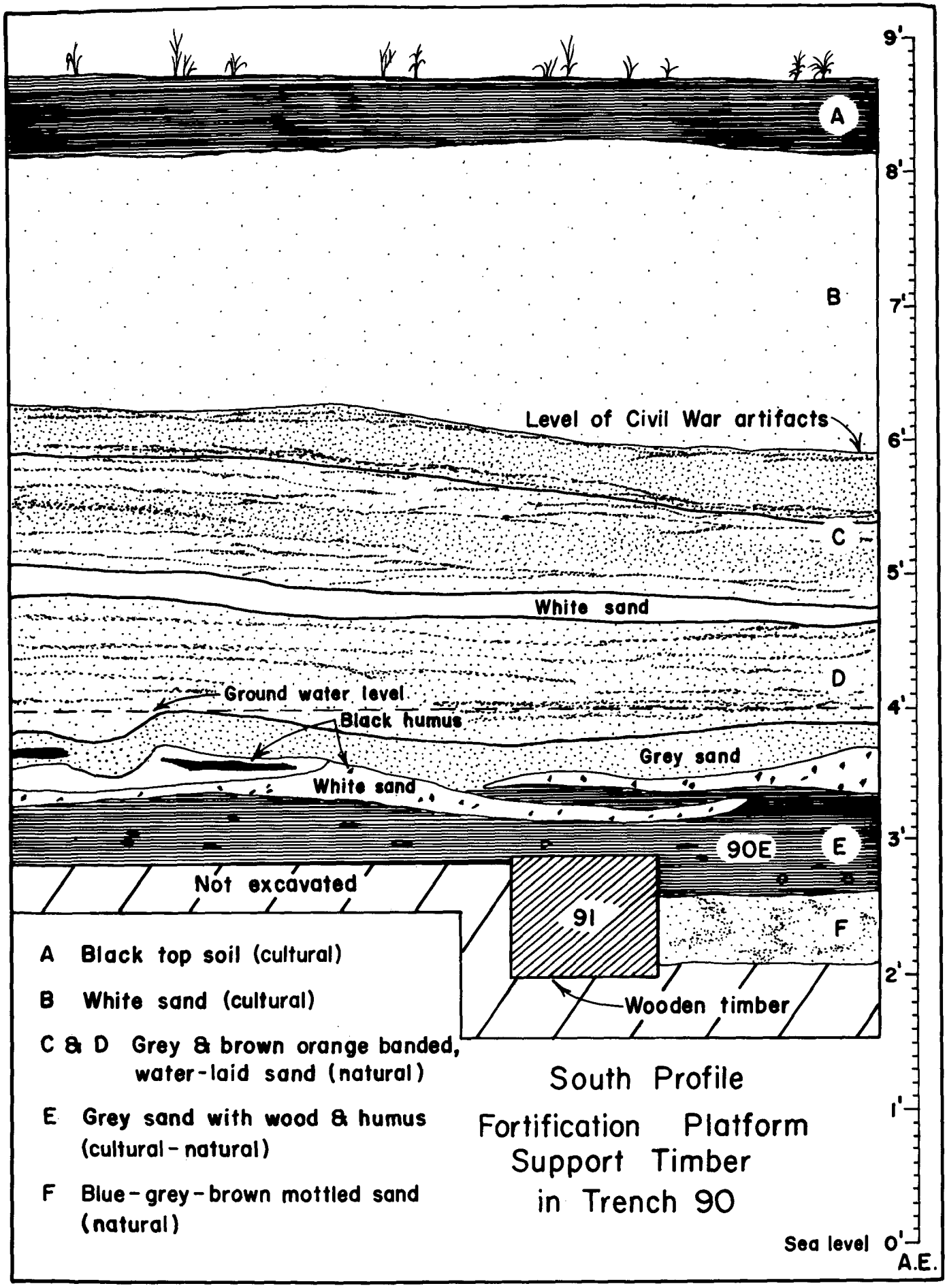

9'
8'
7'
6'
5'
4'
3'
2'
1'
0'
A.E.
A
B
Level of Civil War artifacts
C
White sand
D
Ground water level
Black humus
Grey sand
White sand
90E
E
Not excavated
91
F
Wooden timber
Sea level
A Black top soil (cultural)
B White sand (cultural)
C & D Grey & brown orange banded, water-laid sand (natural)
E Grey sand with wood & humus (cultural - natural)
F Blue-grey-brown mottled sand (natural)
South Profile
Fortification Platform
Support Timber
in Trench 90

Figure 10

banding begins from 2 1/2 to 3 feet from the surface, and continues to a depth of four feet (Figs. 10,12), reflecting apparently, a number of storms. This layer also contains deposits of sand that are curvilinear in form, and are characterized by angular orientation rather than horizontal as are the water-laid layers. These were seen in the south end of Trench 2 (Fig. 16), and are interpreted as wind blown natural deposits. This interpretation is based on the fine, powdery characteristic of the sand forming these deposits, as well as the tilted, non-horizontal bedding plane. They appear to occur where the original bedding planes of water-laid sand have been interrupted by intrusive digging, or by gullying of some areas by water during storms and subsequent filling with wind-blown sand. Layer E is a dark grey layer with humus accumulation, apparently representing an old ground surface zone. It is beneath this natural humus zone that the timbers (Feature 91) were found (Fig. 10). Layer E contains chips of palmetto wood and yellow pine, as well as ceramics and other objects of the period of the 1770's (see previous section). This layer is cultural in that it contains these objects, but it is also geological in that it appears also to have resulted from water action at a period closely associated with the timbers, perhaps a hurricane. The "F" layer below this is a blue-grey brown mottled sand layer that appears to be water-laid (Fig. 10). The water table appears at a level of 4 feet above sea level, and had to be pumped down to a level below the timber, (seven feet below present surface) before profile drawings and photographs could be taken (Figs. 10,12).

This profile situation seems to be generally similar throughout the area of the trenches east of the third fort. Trenches 1 and 2

were not excavated below the water table at the four foot level, for at the time of their excavation there were no pumps and other equipment yet available to lower the water table. For this reason only Trenches 89, 90, 100, and others cut by backhoe in the area after pumps were available were taken to a sufficient depth to observe the dark grey humus Layer E.

In Trench 89, Layer E contained a solid mass of palmetto tree roots (Fig. 8). On the top of this layer an eleven-inch circular artillery shell was found, with the fuse removed (Fig. 19). Since a number of fragments of eleven inch shells were found in archeological contexts of the Civil War on the site, it is likely that this shell too, is of that period, from 1863-65 when Federal Ironclads shelled the fort (Bearss 1968b:169-175; Rawson and Stewart 1902:27). Better dating evidence for this shell is discussed later. The characteristic humus-filled appearance of Layer E in Trench 89, in conjunction with the palmetto roots, seems to suggest a marshy area at the time the palmetto trees were growing in this area.

In addition to this evidence we have the photographs of the Confederate traverse taken in the 1860's that reveal a very low place to the south of the traverse that might well be the "E" layer in Trench 89, where the eleven-inch artillery shell was found (Bearss 1968b:Plate XXV,XXVI; Figures 23 and 24 in this report). From these photographs it is apparent that any artifacts or timbers of the First Fort Moultrie lying beneath the sand traverse would be protected from contamination by the traverse, while the low area to the north and south of this traverse could well represent the "E" layer of humus into which the Confederates dug when they constructed the traverse in 1861 (Bearss 1968b:165). For this reason the "E" layer would likely contain

Civil War Period artifacts to the north of the traverse and to the south of the traverse but not beneath the traverse itself. In the photograph in Bearss (1968b, Plate XXV; Figure 24 of this report), a stack of round artillery shells can be seen. We might suppose that the eleven-inch shell found in Trench 90 (Fig. 19), might be one of those in the photograph were it not for the fact that we know that a ten inch mortar was positioned behind this traverse by the Confederates, and these shells are obviously for this mortar (Figs 1,26). This information comes from the engineer's drawing showing plan and profiles of the traverse published in 1868 (Corps of Engineers 1868).

With these data clearly eliminating the possibility that the shell came from the Confederate mortar, we turn to the shell itself for clues. Fortunately this is a relatively simple matter, since the brass brushing for the fuse reveals a stamped anchor, from which we know that it was a naval shell, apparently shot at Fort Moultrie, failing to explode. The Confederates removed the fuse by unscrewing it. We know that the Third Fort Moultrie was bombarded by Federal Ironclads in April, September and November 1863, and again in 1865, and that all the Ironclads had eleven-inch guns. We can well suppose therefore that the round eleven-inch shell recovered resting on the "E" layer in Trench 89, very likely came from one of these bombardments (Bearss 1968b:169-175; Rawson and Stewart 1902:27). This information allows us to date Layer E in Trench 89 at 1863-65 but as we have seen elsewhere, the timbers found in Trench 90, in the area beneath the traverse were not associated with any objects dating later than the period of the Revolution. From the plan of the traverse made at the time, we can superimpose its position over the area east of the Third Fort Moultrie, and from this

FIGURE 11

North profile of area 52, revealing the oyster shell midden of Layer F near the bottom of the excavated area, lying on the dark pre-Revolution humus layer. The midden can be seen to be thickest toward the right, and thinning considerably to the left, in the area of the twelve pounder ball. This midden is lying on the berm at the entranceway of the First Fort Moultrie.

FIGURE 12

The heavy west timber of Feature 91, in Trench 90, south profile. The mortised area reveals the angle of a tennoned timber once locked into position with this timber to form an angle in the construction of the fort. The non-cultural hurricane laid sand layers are clearly revealed in the profile, as well as the upper cultural layer representing the Confederate traverse constructed at this location in 1861.

FIGURE 13

A view of the dark outline of the fort ditch (Feature 37) in Trench 32, facing east, with twelve pounder ball in foreground. Once the water table was lowered the features could easily be seen once the midden deposit layers were removed.

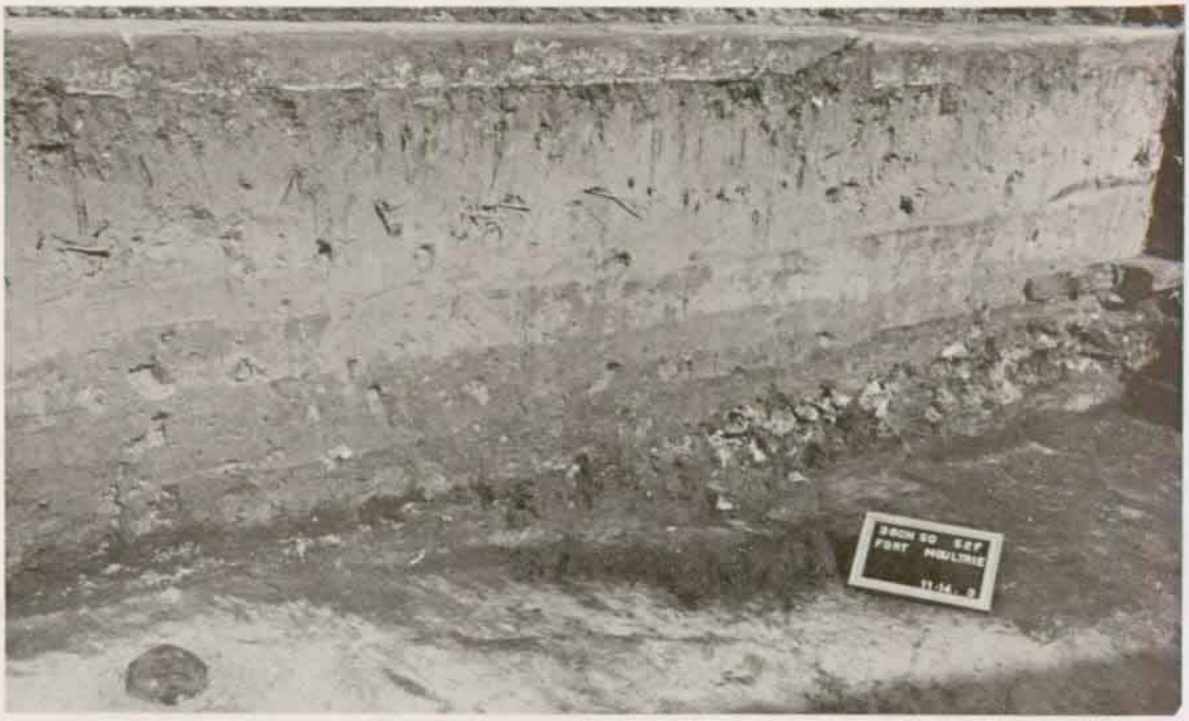


Figure 11

Figure 12

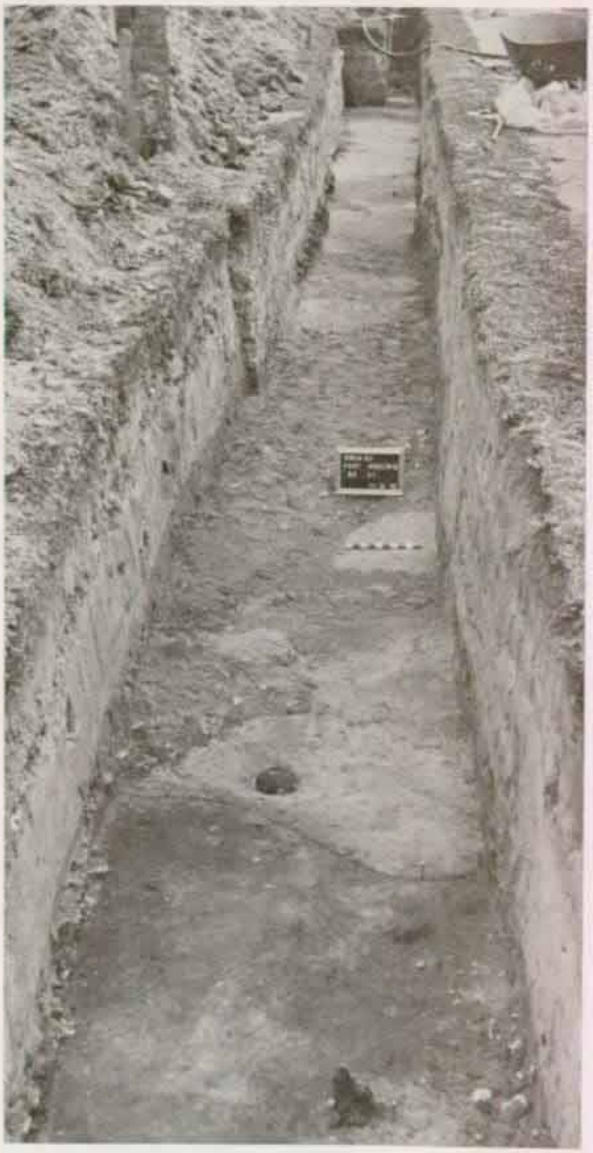


Figure 13

determine where further archeological work will likely reveal Civil War Period artifacts at the "E" layer, and where to expect only undisturbed Revolutionary War data to emerge (from beneath the traverse) (Fig. 1).

In excavating the backhoe cuts on the north side of Poe Avenue (Trench 107), the depth of the timber for the platform of the First Fort Moultrie was only about four feet due to the decrease in elevation at this point. A very important bit of data was recovered from two backhoe trenches (Trench 104 and 105), cut to the south of the point where the timber was last seen (Fig. 1). These trenches were carried to a depth of sea level, two feet below the bottom level of the fort timbers, without any sign of a humus layer or the timber, only water-laid sand being seen. This would indicate that to the south of the point where the timbers were last seen, the humus Layer E has been cut away by the action of the sea, carrying evidence of the fort with it. This is supported by a map showing the high tide line for June 1, 1833 (Bearss 1968b:Plates I,XI), running in almost the exact area where the end of the fort timber ended in an eroded snag (Fig. 1). This evidence strongly suggests that the end of the large timber was exposed on the beach in 1833, with the area south of that point being eroded lower than the timber. This interpretation fits well with the fact that the timber is only two feet above sea level, and exposure to hurricanes and tidal beaches would certainly take a toll of the Revolutionary War Period data south of the point where it was last seen in Trench 103. Further archeological work could expose a north-south profile in this area to a depth of sea level, using many pumps, and perhaps obtain further verification of the data observed in this exploratory archeology project.

FIGURE 14

A view of the west profile of Trench 2, revealing the hurricane laid sand layers beneath the remains of the Confederate traverse.

FIGURE 15

A view of Trench 55 showing the brick road leading to the entrance to the Third Fort Moultrie, with Trench 39 in the background.

FIGURE 16

A view of the west profile of Trench 2 at the south end, revealing the wind-blown deposit of sand reflecting dune activity in the area.

FIGURE 17

Civil War Period artillery shells of Feature 93 in Trench 90. Such features had to be examined, recorded, and quickly removed to allow the search for the deeper-lying First Fort Moultrie to continue.

FIGURE 18

Brick drain with sandstone cover stones located at the east end of Trench 4. The drain was installed prior to the 1860's, and was cleaned in 1879. It carried water from inside the Third Fort Moultrie, through the entranceway, toward the sound to the north of the fort.

Figure 14

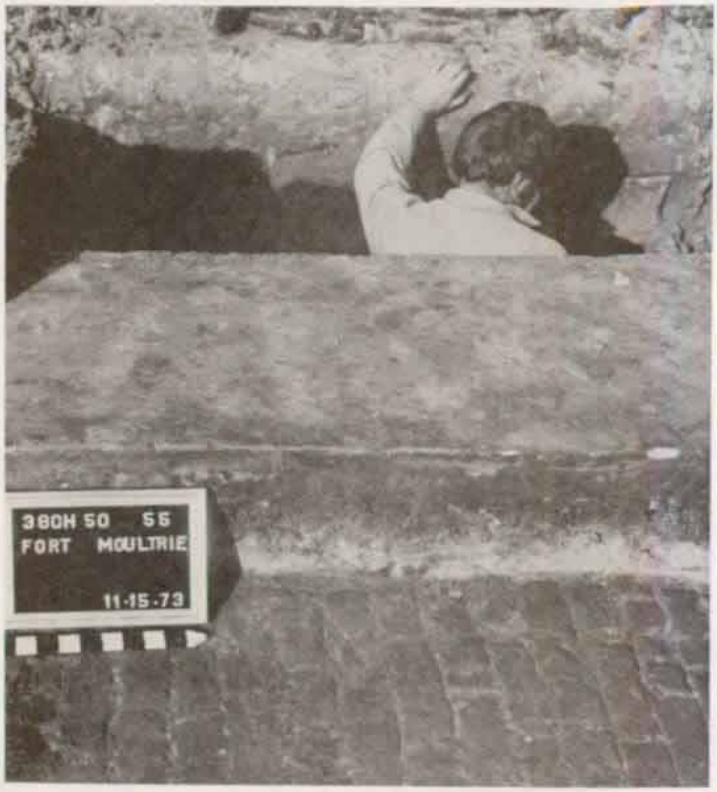


Figure 15

Fig. 16

Figure 17

Figure 18

From the foregoing data it becomes apparent that the foundation timbers of a fort of the Revolutionary War Period was constructed on a humus layer that was part of a marsh or "morass" in this area, in which palmetto trees were growing. The timbers were positioned only two feet above sea level, and were probably protected from high tides by a barrier line of dunes far forward of this position on the site.

The fact that very little midden material was found in association with the timbers suggests that there was little occupational use of this area that was archeologically recoverable. This may well reflect a short time span for the occupation of the area. The water-laid sand layers covering the timbers suggests that hurricane storms may have been involved in burying the evidence of the fort, eventually to a depth of six feet. Helping contrubute to this deposit of sand cover above the timbers of the fort was Layer B, which was not water-laid, being the result of filling of the site artificially, i.e., culturally. (From the documents we know that Layer B is the remains of the traverse built in this area in the 1860's by the Confederate forces). The top cap to the site was added in relatively recent years to provide a smooth and erosion free cap to the soil in this area.

An important discovery in this area is that the humus Layer E in which the fort timbers were found, does not occur south of the last point where the timber was seen, suggesting strongly that erosion by the sea has destroyed the data in this area. Excavation by the Confederates to the south and north of their traverse built over a part of the fort timbers also contributed to the destruction. This latter data, as well as the map showing the beach line in 1833, are documentary evidence supplementing the archeological-geological record we have been presenting here.

Functional Data

The fact that there are two obtuse angles involved in the parallel timbers clearly reveals that the timbers represent a fortification. Such angles are not usually found in the construction of dwellings and similar structures, whereas obtuse angles are a characteristic of forts (Vauban 1740 in Rothrock 1968; Muller 1746). The two angles involved might represent the easternmost salient angle, reentered angle, and the curtain wall of the northeast bastion of the First Fort Moultrie as shown by Edwin Bearss in his conjectured positioning of the First Fort Moultrie (1968a:Plate VII; Figure 7 in this report). The positioning of the angles of the timbers is exactly 65 feet east of the northeast bastion of the Third Fort Moultrie, as suggested by Bearss in his hypothesis, but is located 200 feet farther south than his conjectural position. The archeologically revealed timbers therefore, could be a fullfilling of the prediction offered by the Bearss hypothesis that the northeast bastion of the First Fort Moultrie would indeed be found in this area east of the Third Fort Moultrie (Bearss 1968a:Plate VII; Figure 7, this report).

The use of square hewn timbers interlocked with mortised and tenoned joints such as found here certainly indicate a construction carried out with some formal planning as opposed to a fort thrown up quickly, such as field fortifications thrown up to answer the expediency of battle imperatives. This point is emphasized by the fact that on hand with William Moultrie to supervise the construction was Captain Ferdinand De Brahm, a military engineer, a nephew of the famous engineer William Gerard De Brahm, who supervised a number of American fortifications prior to the Revolution (DeVorsey 1971:53). With a trained

engineer on hand to supervise the construction of the fort it was, of course, not a makeshift affair thrown up by amateurs.

From our examination so far it begins to appear that the timbers found east of the Third Fort Moultrie are clearly part of a formally planned fortification of the period of the Revolutionary War. Before we state a formal hypothesis to this effect we will examine the historical documentation relating to the cultural and non-cultural archeological data presented in the foregoing sections.

Historical Data

The history of ocean-laid sand is clearly seen in the archeological-geological record on the site, and the historical documentation also reveals a long history of storms with high tides, many ten feet above normal. The following is a list of some of the storms, with notes regarding them, that had an impact on Sullivan's Island before and after the building of the First Fort Moultrie.

Date of the Storm	Reference	Comment
1699	Bearss 1968b:125	
1728	Bearss 1968b:125	
1752	Bearss 1968b:125	
1776	Moultrie 1802:I, 121-22, 174	First Fort Moultrie built on the site in a "morass" or "fwamp".
1777	Gibbes 1853:II, 60	Men in the fort could fall out into formation only "at such time as the tide will permit".
1783	Bearss 1968a:18-20	Fort garrisoned by corporal's guard when a hurricane hit-it was never used again.

Date of the Storm	Reference	Comment
1794 & 1798	Bearss 1968a:42,62	Second Fort Moultrie built.
1803	Bearss 1968a:72-75	High tides hit damaged second fort.
1804, September 7	Bearss 1968a:72-75	Hurricane destroyed 15-20 houses on Sullivan's Island, with sea tides across the island. Reduced second fort to "heaps of rubbish".
1808	Bearss 1968b:21	Third Fort Moultrie begun.
1822, September 27	Bearss 1968b:30	Hurricane, families sought shelter in the fort.
1831, June	Bearss 1968b:130-31	Storm damaged southwest angle of the Third Fort Moultrie.
1834, 4th & 30th, September	Bearss 1968b:140	Storms
1842, fall	Bearss 1968b:47	Storms buffeted the fort.
1854, September 6	Bearss 1968b:62,121	Fort under two feet of water in places, surf made a clear breach over the island, many people in the fort for refuge.
1860, December 6	Scott 1880:I,87	Plan underway to level high sand dunes 160 yards to the east of the fort.
1861	Bearss 1968b:165 (Fig. 27, this report)	Confederates build traverse to the east of the fort.

With this documentary review of the hurricanes that struck the site of Fort Moultrie in the 85 years after the construction of the first fort, we have the written record supporting the archeological-geological record upon which our interpretations have been made. We also have the documentary explanation for the presence of Layer B

above the hurricane strata in the area east of the Third Fort Moultrie (Fig. 10). It further provides a record, both written and in engineer's drawings, of the Confederate traverse extending at a right angle, to the east, from the Third Fort Moultrie (Fig. 26).

The past one hundred years is apparently represented by the leveling of the Confederate traverse and the accumulation of Layer A as a topsoil zone on the site. An elevation of almost nine feet above sea level accumulated over the timbers of the fort, so that a hurricane seldom breaches the island today.

The historical documentation of the various forts called Moultrie on this historic site has been examined by Edwin Bearss in his three volumes on the subject (Bearss 1968a,1968b,1968c). Those references of use in the interpretation of the data revealed through exploratory archeology east of the Third Fort Moultrie are presented here.

DATE	REFERENCE	OBSERVER	DESCRIPTION
January 1776	Moultrie 1802:I, 116	Moultrie	"fascine battery" being built
January 9, 1776	Clark 1968:III, 705	Council of Safety	Mr. Dewees supplied palmetto logs, "not less than ten inches diameter in the middle, one third to be eighteen feet long, the other two-thirds twenty feet long..."
January 12, 1776	Moultrie 1802: I,121-22	Moultrie	"a thick deep swamp, where the fort stands, covered with live oak, myrtle, and palmetto trees".

DATE	REFERENCE	OBSERVER	DESCRIPTION
1776	Bearss 1968a:4	Captain Peter Horry	"an immense pen 500 feet long, and 16

feet wide, filled with sand to stop the shot." The platforms were said to be made of two-inch plank, nailed down with spikes.

-------	Bearss 1968a:8	Bearss Summary	"It was built of palmetto logs

laid one upon the other, in two parallel rows at 16 feet apart, bound together at intervals with timber dove-tailed and bolted into the logs. The space between the two lines of logs was filled with sand. The merlons were walled entirely by palmetto logs, notched into one another at the angles, well bolted together, and strengthened with pieces of timber. They were 16 feet thick, filled in with sand, and ten feet above the platforms. The platforms were supported by brick pillars."

-------	Bearss 1968a:9	-------	At the time of the battle

on June 28, 1776, the NE and NW curtain and bastions of the fort were unfinished, *"being logged up to a height of about seven feet."* [italics supplied] Long planks were placed upright against the unfinished outside walls, inclined and projecting over them, which increased the height by 10 or 15 feet, into which loopholes were cut. [any parapet construction below the seven foot height would clearly date from 1776, since the fort parapet was standing, with logs 7 feet high at the time of the battle!]

June 22, 1776	Moultrie 1802:I, 162	Charles Lee	Sends timbers to Moultrie
June 24, 1776	Lee 1792:384	Charles Lee	Lee orders the ditch to be deeper

and wider; "a fcreen to be thrown up behind the entrance; a facade of facines, or old timber, is neceffary to keep up the light fand, of which the breaftwork of this rear-guard is compofed."

June 28, 1776	Moultrie 1802:I, 176	Moultrie	During the battle General Lee visited the

fort, and Moultrie had Lieutenant Marion and 8 or 10 men "... to unbar the gateway, (our gate not being finished) the gateway was barricaded with pieces of timber 8 or 10 inches square, which required 3 or 4 men to remove each piece..."

July 6, 1776	Moultrie 1802: I,172	Charles Lee	Wants the works finished and

suggests using Negroes to "fill up the merlons which are not yet full... they may palisade (for I believe you have palisades sufficient) the low and most assailable parts of your embrasures and angles..."

DATE	REFERENCE	OBSERVER	DESCRIPTION
1776	Bearss 1968a: Plate I	map	The fort had cavaliers to

the east and west, attached to the northeast and northwest bastions.

November 26, 1776	Gibbes 1853: II,36	General Howe	General Gadsden has undertaken,

and is "so happily executing", beneficial public work on Sullivan's Island [completing the work on Fort Moultrie].

June 27, 1777	Gibbes 1853: II,60	General Howe	A ceremony to mark the battle at Fort Moultrie

one year ago was being planned, and Howe ordered: "The commanding officer at Fort Moultrie will turn out the men of that fort *at such time as the tide will permit,* [italics supplied], and he thinks proper, and fire either a *feu-de-joie*, or in platoons..." [This clearly reveals that the ground inside the fort was under water at high tide, and relates to Moultrie's statement, above that the fort was built in a thick deep swamp.]

June 23, 1777	Sifton 1965: 107	Baron De Kalb	Height of the fort raised to 20 feet.

These [American] forts "...are without moats and outside works, easy to scale, even without ladders [for] the trees can be easily grasped by hands and feet."

December 24, 1777	S.C.H. & G.M. 1906:80	Colonel Pinckney	Ordered that the Quartersmaster Sergeant was

"...to have all the Chimneys Swept Under the platform, without Delay, if This is not properly done where they have Rooms they are to Inform the Commanding Officer of it." [This probably indicates officer's rooms beneath the platform, with chimneys possibly in the merlons.]

1777-1778	Garner 1973:11	Treasury Journal	Expenditures for Fort Moultrie

during this time totaled £203,152.74 for carpentry work, palmetto logs, timber, boards, scantling, 200,000 bricks approximately 3,000 bushels of lime.

1778	Kennett 1965: 109	anonymous Frenchman	Fort Moultrie said by a witness to have

had "a double battery"..."It was only through the embrasures that the English effected the little damage which they did...the gallery where the upper battery is situated is of plank and quite wide..." [This is in reference to a wide platform, and two tiers of guns.]

DATE	REFERENCE	OBSERVER	DESCRIPTION
May 6, 1780	Moultrie 1802: II,84	-------	"From all appearance, Fort Moultrie* is in the hands of the enemy; a British flag was seen flying on the flag-staff. *Fort Moultrie was given up without firing a gun." [Footnote by William Moultrie.]
1780	Uhlendorf 1938: 95,199	Hessian Soldier Ewald	Fort Moultrie said to be made of palmetto and brick.
ca.1849	Bearss 1968a:8n	Dr. Johnson	"The 'Advance Guard' [a companion work to Fort Moultrie], was constructed of palmetto logs, with merlons, on a brick foundation. The brick foundations were seen by Dr. Johnson shortly before 1850, when they were uncovered by shifting sand." The Fort Moultrie work was probably built this way also, with the bricks positioned on a large square hewn timber.
October 6, 1783	Bearss 1968a: 18-19	*S.C. Weekly Gazette* October 11, 1783	The fort was re-occupied by the Americans in December 1782, and was damaged in a hurricane of October 6, 1783.
May 5, 1791	Bearss 1968a:19	*City Gazette and Daily Advertiser*, May 6, 1791	George Washington visited the fort, and viewed the remains of the fort, which had been wrecked by nature and salvaged by man between 1783 and 1791.
After 1791	Bearss 1968a: 20-21	Bearss	"As soon as the palmetto logs were removed, the sand parapets quickly became unrecognized sand hills. The brickwork was either salvaged for use in Fort Moultrie, Number 2, and for private homes, or covered by the shifting sands."

This wealth of verbal data is accompanied by contemporary drawings of the First Fort Moultrie, and these are discussed by Bearss in his fine group of research volumes on the history of the Forts Moultrie (Bearss 1968a; 1968b; 1968c). The maps of primary concern in the analysis of the historical data are those by Lieutenant Thomas James of the Royal Regiment of Artillery, published in London August 10, 1776

(Bearss 1968a:Plate II), and a plan of the fort taken from Drayton's *Memoirs* of the American Revolution, Volume 2, published in 1821 (Bearss 1968a:Plate I). The map used in this report (Figure 2) is a copy of the original Gray(?) Map, from which the Drayton Map was taken, which reveals the "square" of the fort as actually a trapezoid (copy from the library at Fort Moultrie, Fort Sumter National Monument). On the James Map (Bearss 1968a:Plate II) "550 Feet" was written between the bastions on the southern side of the fort. This has always been assumed to be the measurement for the exterior side of the fort, which is "the distance or imaginary line drawn from one point of the bastion to that of the next" Muller 1746:219). However, this distance might well indicate a measurement of 550 feet from a point *inside* each bastion, being the "Interior side of a fortification,...the imaginary line drawn from the center of one bastion to that of the next, or rather the curtain produced to the centers of the bastions" (Muller 1746:224). Thus there are two ways we can interpret this distance shown on the James Map.

Using the copy of the Gray(?) Map from the Fort Moultrie library and establishing a scale by using the measurement from bastion to bastion as 550 feet, we find that the thickness of the platform and merlons measures 16.5 feet. This corresponds well with the several references indicating the thickness of the parapet as 16 feet. The archeologically revealed timbers are slightly less than 25 feet apart, and this corresponds well with the scaled map distance of 27.5 feet for the platform width. It appears, therefore that the timbers may well represent the foundation of a fort platform.

RECONSTRUCTIVE SYNTHESIS OF THE ARCHITECTURAL, ARCHEOLOGICAL AND HISTORICAL DATA

From these historical data it is revealed that there is abundant information as to the appearance of the First Fort Moultrie, far more than is usually available for use in designing reconstructive drawings combining historical and archeological data. The novice researcher might well see this wealth of specific data as puzzle-pieces only "generally enlightening" and "not sufficient for the purpose of designing a reconstruction" (Garner 1973:14). But when using the standard analytical synthesizing tools of the archeologist, and fitting the pieces together in the manner dictated by the data, the puzzle no longer appears as confusing unique historical pieces but emerges as an explanatory reconstructive design (Figures 1 and 2).

The wealth of historical archeological data discussed above is listed here as a preparation for the drafting of a reconstructive drawing illustrating how the puzzle can be fitted together to form a descriptive picture of the First Fort Moultrie.

The Parapets and Merlons

1. Palmetto logs laid one upon the other in parallel rows 16 feet apart.
2. Palmetto logs sometimes possibly laid on bricks.
3. Timbers were used to bind the logs together at intervals.
4. The palmetto logs and timbers formed cribs notched together at the corners.
5. The cribs of logs were filled with sand forming a protective wall.
6. The slope of the face of the parapet allowed it to be easily scaled.
7. The palmetto logs were at least 10 inches thick in the middle.
8. The palmetto logs were 20 feet long, with 1/3 being 18 feet long.
9. The merlons were 16 feet thick.
10. The merlons rose 10 feet in height above the platform.
11. The height of the parapet from the ground was 20 feet high.
12. Palmetto chips and log fragments were found archeologically.
13. The width of the parapet scales 16.5 feet on a contemporary map.
14. The parapet logs were probably placed on a large square timber of yellow pine.

The Platform

15. The platform was made of two inch plank nailed down with spikes.
16. "The gallery where the upper battery is situated is of plank" [platform].
17. The upper gallery was "quite wide" [platform].
18. Timbers .9 by 1.1 feet, squared with mortices were found archeologically, probably representing foundation timbers.
19. Timbers 10 inches square were in the First Fort Moultrie.
20. The platform was supported on brick pillars.
21. The brick were held together with lime mortar.
22. One brick was found in position on a timber, with others adjacent.
23. The timbers may sometimes have been placed in an oyster shell filled ditch for firmer support.
24. There were rooms beneath the platform. [Probably for officers].
25. There were chimneys beneath the platform.
26. In some places there were guns beneath the platform.
27. The "upper gallery" [on the platform] may well have been casemated in the years after the first battle, as indicated by the use of the word "gallery".
28. A gallery was "a passage made underground...the earth above supported by wooden frames with boards over them" (Muller 1746: 222).
29. Parallel, squared timbers, 25 feet apart were found archeologically.
30. The platform on the contemporary map scales 27.5 feet.
31. The platform on the north and east sides was apparently not *finished* at the time of the battle on June 28, 1776.
32. The platform required enough space to allow the piece to be sponged out after each firing, when the gun is in the recoiled or servicing position.
33. The fort was said to be 550 feet from one bastion to that of the next.

These specific pieces of information cannot be dismissed as merely "generally enlightening". Rather, they form an excellent base for the reconstructive drawings illustrated in Figures 1 and 2. The basic elements of this interpretation are so specifically presented in our historical and archeological documentation that there is little other than detail remaining relative to the reconstructive statement. The position of the casemated lower guns, for instance, can easily be worked out using documentation of the period. The rooms below the platform have been positioned on each side of the gun on the platform above. This allows the crib beneath the gun to be filled with sand,

if necessary, to support the heaviest pieces of artillery. This would not have to be the case, for instance, with casemated guns, which could well be one above the other, with only the platform supporting the gun. The ladders shown in our drawing may have been steps or ramps, and the rear of the rooms below the platform may well have been left open, in some cases, particularly where guns were below the platform designed to fire through embrasures. The chimneys may well have been literally below the platform instead of in the merlons as we have shown.

These are details that do not alter the basic statement seen emerging from the documentary record. As we will see later, the picture that is emerging from the archeological-historical synthesis of the First Fort Moultrie data is not one of a pitifully small flimsy fort built of sticks and sand, but a picture of a massive work of great size, comprising some of the best features of military engineering of eighteenth century coastal fortifications. It was not, perhaps, as one British soldier who saw it commented "the strongest Fort ever built by Hands", but nevertheless it was indeed impressive enough to prompt him to make this statement when he saw it (Bearss 1968a:17).

Hypothesis A, Based on the Synthesis of the Data

From the foregoing presentation of the architectural, archeological, chronological and historical data revealed through exploratory historical archeology research in the area east of the Third Fort Moultrie, we arrive at an hypothesis stating that:

> THE TIMBERS FOUND IN THE AREA EAST OF THE THIRD FORT MOULTRIE ARE THE FOOTING TIMBERS FOR THE PLATFORM OF THE EAST SALIENT ANGLE, REENTERED ANGLE, AND CURTAIN WALL OF THE NORTHEAST BASTION OF THE FIRST FORT MOULTRIE CONSTRUCTED BETWEEN 1776 AND 1778 BY THE AMERICANS.

Hypotheses are tested using data other than that upon which they were generated. We can test our First Fort Moultrie "Hypothesis A" against the documentary record of other forts on the same site from 1794 to 1804, and from 1808 to the present (Bearss 1968a,1968b,1968c). Fortunately we have abundant documentation for the various fort-building activities on the site, and these will be examined with our hypothesis in mind to see if there are other tenable alternatives to that presented by the hypothesis.

Testing the Hypothesis Against the Second Fort Moultrie Data

The First Fort Moultrie was damaged almost immediately after the Revolution by a hurricane on October 6, 1783, when the fort was manned only by a Corporal's Guard (Bearss 1968a:18). It was not manned again, and no attempt was made to repair the damage caused by the hurricane (Bearss 1968a:19). George Washington visited the ruins in 1791, and between then and 1794, nature and the islanders salvaging timbers and bricks took an additional toll on the ruined fort (Bearss 1968a: 20-21). Edwin Bearss expressed it well, and archeology has borne out his evaluation, that "As soon as the palmetto logs were removed, the sand parapets quickly became sand hills" (Bearss 1968a:21).

In 1794 construction began on the Second Fort Moultrie, and this fort was constructed of timber revetments "both before and behind" (Bearss 1968a:36). The timber revetements were filled with sand, and $1,000 worth of timber was delivered at Fort Johnson and Fort Moultrie for use in the construction of the forts at these sites (Bearss 1968a: 39-40). These forts were said to be quite large, so large in fact that after the foundation was laid in 1794 the scale was "...supposed too expensive for the funds destined to this service", so the construction

was stopped and the fort allowed to be "left as it was" (Bearss 1968a: 45,47). However, a bake house, a barracks, and an officers' quarters had been erected inside the foundation of the planned fort (Bearss 1968a: 48). From these records it becomes evident that a very large fort was laid out in 1794, but "the foundation only was laid" (Bearss 1968a:47). The fact that the fort was constructed of timbers filled with sand, provides us with a possible architectural alternative for the interpretation of the timbers found east of the Third Fort Moultrie in the archeological exploration project.

A map of this fort was made in 1796 by J. Purcell, showing the south face of the fort and the location of the bake house and barracks, the latter obviously planned to be enclosed inside the fort (Bearss 1968a:Plate III; Figure 1, this report). [For discussion we will refer to this fort as the 1794 Second Fort Moultrie]. However, only the south face and angles are shown, but since our references mention that the foundation for the very large fort was laid, we might suppose that the base timbers at least were in place all around the perimeter of the fort. This is particularly indicated by the layout of the barracks north of the south wall of the fort shown on the map. It is entirely likely that the foundation timbers for the entire fort were in place by the time the construction of the barracks and officers' quarters were built. In fact, they were very likely positioned relative to the fort layout, not the other way around. When Purcell drew his map in 1796 he drew only the south front, perhaps because this may have been completed higher than the foundation timbers on the other three sides, as was the case with the First Fort Moultrie.

In order to determine the conjectured size of the entire 1794 fort plan we can use the north line of quarters shown on the map as very likely the northern limits of the fort, being just inside the planned north curtain wall.

Creating a Scale for Use with the 1796 Map

In order to be able to measure on this 1796 map, an engineer's scale was used with the measurements given on the map for the width of the road, thus creating a scale for the map. A fifty foot wide road and a 100 foot wide road are shown on the Purcell Map (Fig. 1), measuring 12 and 6 units on a 1 inch = 40 feet engineer's scale. Using 7.7 feet for each unit we find that the two roads measure 46.2 and 92.4 feet using our scale, reasonably close to the known 50 and 100 foot widths.

In order to test the scale against a control we use the excellent drawing of the smaller Second Fort Moultrie completed in 1798 (Bearss 1968a:62,Plate IV). This map is furnished with a scale, and we find that the south face of this small completed fort scales 168 feet along the front face of the parapet. We know the relationship between this map (Fig. 1, this report) and the Purcell Map (Fig. 1) because of the two wells shown side by side on both maps. We know then that the western half, only, of the parapet of the 1796 Purcell Map formed the entire south face of the smaller Second Fort Moultrie as completed in 1798 (Bearss 1968a;62).

Knowing this, and using our scale, we should theoretically find a close correlation between the 168 foot distance across the face of 1798 fort as completed (Fig. 1), and the scaled western half of the 1794 fort face shown by Purcell (Fig. 1). We find that our scale for the

1796 map indicates 22 units, and multiplying this by our 7.7 feet for each unit we have a scaled distance of 169.4 feet, very close to the known distance of 168 feet. Our scale has therefore been validated for use with the 1796 map.

Establishing the Conjectured Size of the 1794 Second Fort Moultrie

We can now return to the problem, posed above, of creating a scaled drawing of the likely size of the 1794 Second Fort Moultrie using the plan drawing of the south face, and the location of the barracks and officers' quarters shown by Purcell. We can state our problem as a series of postulates as follows:

1. The 1794 Second Fort Moultrie was built of timbers.
2. The timbers formed a revetted parapet.
3. The revetment was both "before and behind" the parapet.
4. The revetment timbers would quite likely be represented archeologically by two parallel timbers.
5. The south face of the 1794 fort shown by Purcell was very likely not the entire outline of the planned fort.
6. The barracks and quarters most likely represent the interior area to be encompassed by the curtain walls of the fort.
7. Using the south face of the fort given by Purcell, and scaling an area enclosing the barracks and quarters shown on that map, we can determine the likely planned perimeter of the 1794 Second Fort Moultrie.
8. Since the south face of the 1794 fort resembles strongly the south face of the later, 1808, Third Fort Moultrie (Fig. 1), we suggest that the north bastions would have a similar configuration as well.

Using these postulates we can state a working hypothesis regarding the 1794 Second Fort Moultrie in relation to the timbers found to form a bastion to the east of the Third Fort Moultrie:

IF THE SCALED, RECONSTRUCTIVE DRAWING OF THE PLAN OF THE 1794 SECOND FORT MOULTRIE REVEALS A NORTHEAST BASTION IN THE AREA OF THE TIMBERS FOUND EAST OF THE THIRD FORT MOULTRIE, THE TIMBERS MAY REPRESENT THE NORTHEAST BASTION OF THE 1794 SECOND FORT MOULTRIE.

With this working hypothesis in mind the Purcell Map can be used to begin a generalized reconstructive plan of the 1794 Second Fort

Moultrie. Using our scale for the map we find that the distance across the south face of the 1794 fort shown by Purcell is 354.2 feet. The scaled distance from the angle in the center of the south face of the parapet shown on the Purcell Map to a point north of the northernmost row of structures is found to be 385 feet. This then, is the distance from the exterior of the south parapet to the exterior of the north parapet in our reconstructive plan of the 1794 Second Fort Moultrie.

The alignment of the completed 1798 Second Fort Moultrie has been worked out by Edwin Bearss using several pieces of data (Bearss 1968a: Plate VIII;Figure 27, this report). He has found that it was positioned in alignment with the Third Fort Moultrie, and toward the west front of that fort. However, he failed to indicate the relationship between the foundation plan of 1794 and the completed fort of 1798, and this has been done on the archeological Base Map (Fig. 1), of the Fort Moultrie Site accompanying this report. Using the Bearss alignment of the Second Fort Moultrie, and also including the 1794 foundation plan we can see that the width of the Second Fort Moultrie was very close to that of the later Third Fort Moultrie (Fig. 1).

Using the measurements derived from scaling the Purcell Map a generalized perimeter of the Second Fort Moultrie has been drawn on the Base Map in Figure 1. From this alignment and positioning of the conjectured fort outline, we see that the northeast bastion area of the Second Fort Moultrie would have been in the immediate vicinity of the northeast bastion of the Third Fort Moultrie, and the northwest bastion would have had virtually the same position as that for the Third Fort Moultrie.

This clearly reveals that the timbers found to the east of the Third Fort Moultrie are *not* those for the northeast bastion of the Second Fort Moultrie. The convincing evidence in this regard is the *alignment* of the Second Fort Moultrie with the Third Fort Moultrie, whereas the archeologically revealed timbers in question form curtain angles that are more diagonally oriented with regard to the curtain of the third fort. Our working hypothesis that the timbers are a part of the Second Fort Moultrie is therefore rejected.

Although we have demonstrated that the curtain wall formed by the archeological timbers does not allow for an interpretation of these timbers as a part of the 1794 Second Fort Moultrie, there is, nevertheless, a significant relationship between the archeological timbers and the south front of the Second Fort Moultrie of 1794. This relationship is seen in the fact that the south curtain wall of the First Fort Moultrie, on which the battery of guns was positioned that turned away the British fleet in 1776, is generally parallel with one of the main curtain wall angles of the planned Second Fort of 1794 (Fig. 1). This parallelism results from the necessity of firing artillery toward the southwest both in the battle of 1776, and in 1794 when the Second Fort Moultrie was planned.

When the Second Fort Moultrie was completed in 1798, using only the west half of the planned south front of the fort as envisioned in 1794, the position of the Third Fort Moultrie was thereby predicated, since the Third Fort Moultrie was oriented the same as the completed Second Fort Moultrie (Bearss 1968a:47,63;Plate VIII;Figure 1, this report). This sequence of relationships between the First Fort Moultrie, the Second Fort Moultrie, and the Third Fort Moultrie clearly reveals

the evolutionary architectural development between the three forts in relation to the channel so important to all the forts on the site.

This inquiring examination of our original hypothesis that the timbers are a part of the northeast bastion of the First Fort Moultrie has also demonstrated the developmental relationship between the three forts, with critical, defensively important angles of the first fort aligning with those of the second fort, and the size and alignment of the third fort strongly anchored in the original plan and orientation of the Second Fort Moultrie.

Testing the Hypothesis Against the Third Fort Moultrie Data

The parallel alignment between the timbers east of the Third Fort Moultrie with the angles of the northeast bastion of that fort has been pointed out in the descriptive section of this report. Our hypothesis stating that these timbers are a part of the First Fort Moultrie treats this alignment as coincidental. However, the question arises as to whether there is ever a military situation that would call for the construction of one bastion beyond and in alignment with another, in the event that both bastions were from the same fort. Such a situation is indeed called for when a fort is located on a penninsula, and there must be a defense against attack from the land side, the exact situation in the case of Fort Moultrie (Muller 1746:199,200; Plate 4). In such cases "The narrow front towards the land is covered by a horn-work..."(Muller 1746:199). Since there is a military parallel for such a situation we might raise the question whether the same situation might have resulted in the timbers to the east of the Third Fort Moultrie through the construction of a hornwork or similar out-work on the east of the third fort either at the time of construction or added later.

FIGURE 19

The eleven-inch shell with fuze removed, found lying on a humus layer in Trench 89. This type shell was thrown at Fort Moultrie during the Civil War by ironclad monitors, in 1863 and 1865, dating this level of the trench to this time period.

FIGURE 20

Cut nails and rotten wood fragments in Trench 3. Such rubble resulted from the destruction following the Civil War, of the Confederate traverse in this area of the Fort Moultrie Site.

FIGURE 21

The Eliason Palisade constructed in 1833 to protect Fort Moultrie from possible attack by South Carolinians.

FIGURE 22

The Eliason Palisade constructed in 1833, showing the south profile of Trench 21, and the edge of the 1860 quicksand filled moat around the Third Fort Moultrie, paralleling the 1833 palisade, and containing a French wine bottle of the mid-nineteenth century.

Figure 19

Fig. 20

Figure 21

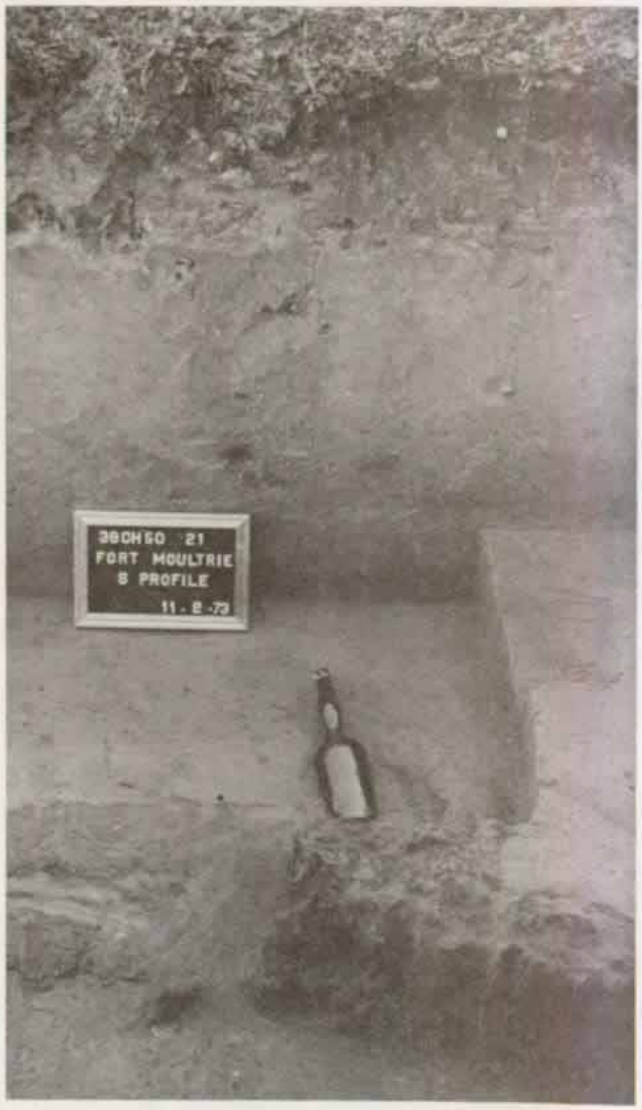


Figure 22

The Third Fort Moultrie, although built of bricks, is built on a double course of two inch planks, producing something of a possible parallel with the timbers found east of the fort (Bearss 1968a:69). In Bearss' research, in his three volumes on Fort Moultrie, there is no indication that such a hornwork was a part of the original construction of the third fort (Bearss 1968a,1968b,1968c). Since it cannot be demonstrated that it was a part of the Third Fort Moultrie of the period of the original construction in 1808, we might look for possible later periods of construction, additions, and repairs, perhaps at a time when defense of the land face to the east would have been an important consideration. Such a time did occur in 1833.

The Eliason Palisade of 1833

In 1833 South Carolinians in Congress warned of secession if Federal coercion did not stop (Bearss 1968b:71). Governor Robert Y. Hayne of South Carolina called on the state for 10,000 soldiers to repel any Federal invasion (Bearss 1968b:72). It was during this crisis that Captain Eliason was sent to Fort Moultrie to see to the defenses (Bearss 1968b:72). Although we have abundant information as to the palisade he built, including a section of it recovered archeologically (Figs. 21,22), and a map showing the position, and a profile of the palisade (Fig. 28), there is no documentation to indicate that a palisade was constructed a distance from the fort toward the east in the area where the timbers in question were found (Bearss 1968b:Plates X-XII). No cases can be made through the documents or through the archeology that the parallel timbers to the east of the third fort have anything to do with the construction carried out by Federal authorities to protect the fort against a possible assault by enraged South Carolinians during the crisis of 1833.

In order to save the Third Fort Moultrie from being washed away by the sea a major undertaking was launched in the 1830's to build log cribs and jetties to prevent the destruction of the Third Fort Moultrie (Bearss 1968b:69;Plates IX,X;Figure 28, this report). No documentation of this period indicates that anything was constructed in the area east of the fort where the parallel timbers were revealed.

The Civil War Period

When the Civil War approached another period of intense military activity by Federal authorities took place at the Third Fort Moultrie beginning in October 1860 (Bearss 1968b:160-162; Scott 1880:I,86,105). The construction of "temporary flanking arrangements" at this time sounds like a good candidate for the "flanking" timbers to the east of the fort. This military activity though, was centered on the construction of flanking caponnieres or bastionettes attached to the southeast and southwest corners of the Third Fort Moultrie in order to allow a flanking fire down the fort ditches during an assault (Bearss 1968b:160; Scott 1880:I,86;Figure 30, this report). There is no indication that any construction was carried out in the area of the timbers in question.

The Federal forces abandoned Fort Moultrie late in December 1860, and went to Fort Sumter. By January 2, 1861 the Confederate forces were in command at Fort Moultrie (Bearss 1968b:165). The first project the Confederates undertook was to build three large traverses on the east half of the seafront (Bearss 1968b:165). These extended toward the east at a general right angle to the east side of the Third Fort Moultrie, and reflected a totally different military concept regarding the use of the third fort. The Federal forces had concentrated on constructing a moat around the fort filled with quicksand, using

FIGURE 23

A view toward the east of the Third Fort Moultrie in 1865, showing the Confederate traverse to the left and the abatis to the right. Archeological evidence for the traverse and the abatis on the east side of the fort, as well as on the north of the Third Fort Moultrie was revealed in this exploratory phase of archeology on the site. This illustration is from the Library of Congress, from Plate 33 in Bearss 1968b.

FIGURE 24

A view of the Confederate traverse, showing large timbers to the north (left) thought to have been dug up by the Confederates during the construction of the traverse. These timbers are like those recovered archeologically, and are also like those supporting the palmetto logs to the right of this figure. This illustration is from Plate 25 in Bearss 1968b.

FIGURE 25

A view toward the east of the Third Fort Moultrie during excavation of Trench 2. The corner of Battery Jasper, in the left background, was used to establish a base line from the U.S.G.S. marker U-70 in the foreground, on the Third Fort Moultrie. Large timbers from a fort were later revealed in the area.

Figure 23

Fig. 24

Figure 25

FIGURE 26

Plans and sections of the Rebel works on Sullivan's Island, 1863 and 1864, as revealed in the *Professional Papers on the Corps of Engineers*, 1868. The position of the Confederate traverse shown on this map was superimposed onto the archeological base map of the site in Figure 1. It was apparently during the construction of this traverse that timbers from the earlier fort were disturbed to the south and north of the traverse.

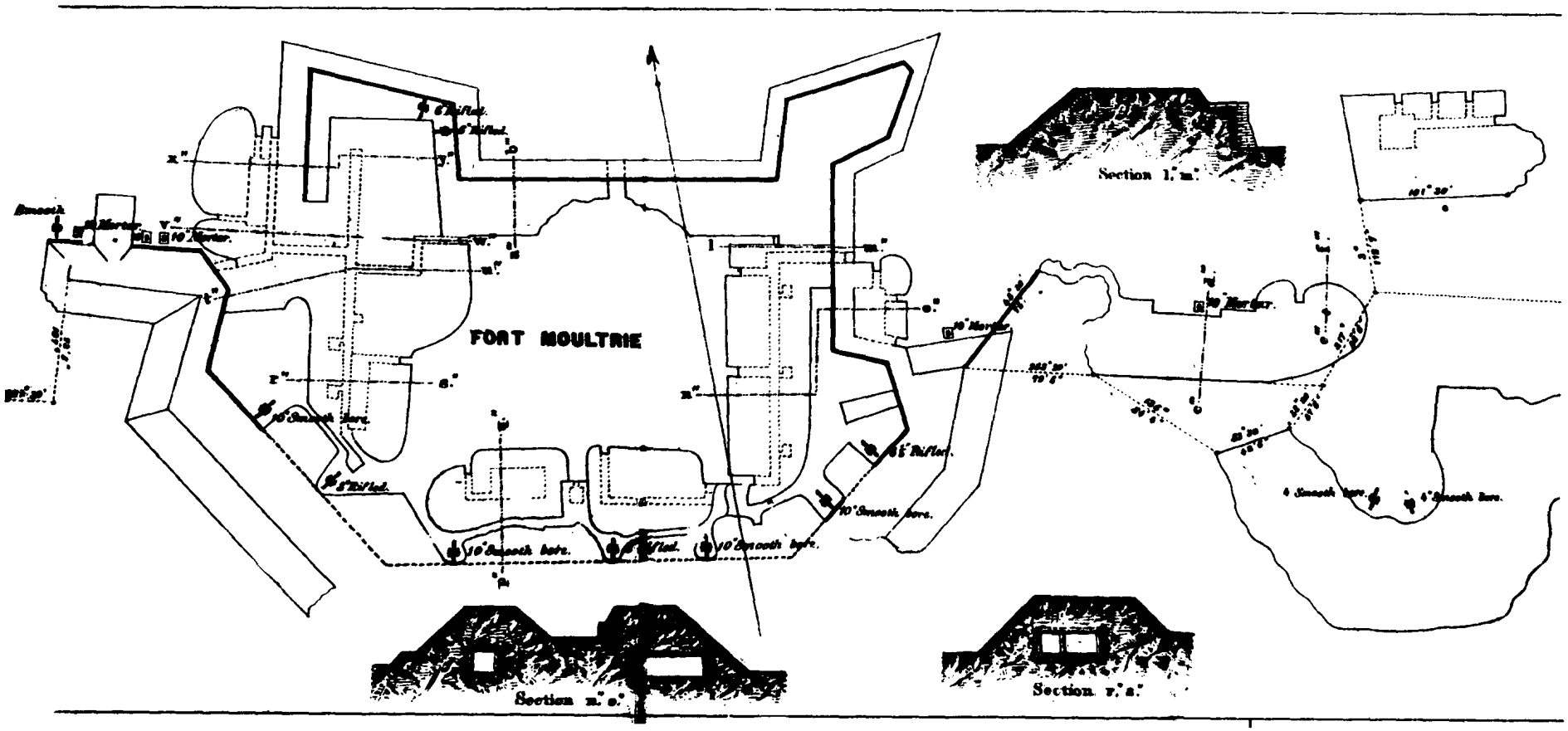


Figure 26

FIGURE 27

A map showing the plan of Fort Moultrie, No. 2, showing its position in relation to Fort Moultrie, No. 3, as illustrated by Edwin Bearss, Plate 8, 1968a. This positioning of the Second Fort Moultrie from the documents was used in positioning the three forts in relation to each other as seen in Figure 1 of this report.

FIGURE 28

A plan and section view of the Eliason palisade constructed in 1833, showing the squared timbers of the palisade positioned on a square horizontally laid timber, as revealed archeologically, and seen in Figure 21 and 22 of this report. This illustration is Plate 11 in Bearss 1968b, and is from Record Group 77, National Archives.

FIGURE 29

A view of Bowman's jetty showing the position of this 1839 feature in relation to the Third Fort Moultrie. From Scott 1880:156.

FIGURE 30

An 1861 sketch of the Third Fort Moultrie showing the position of the "Picket Fence" or abatis found archeologically to the north of the Third Fort Moultrie in front of the northwest bastion, fortuitously paralleling the ditch to the First Fort Moultrie. This abatis is seen in Figure 45, 46, and 49. This illustration is taken from Scott 1880:181.

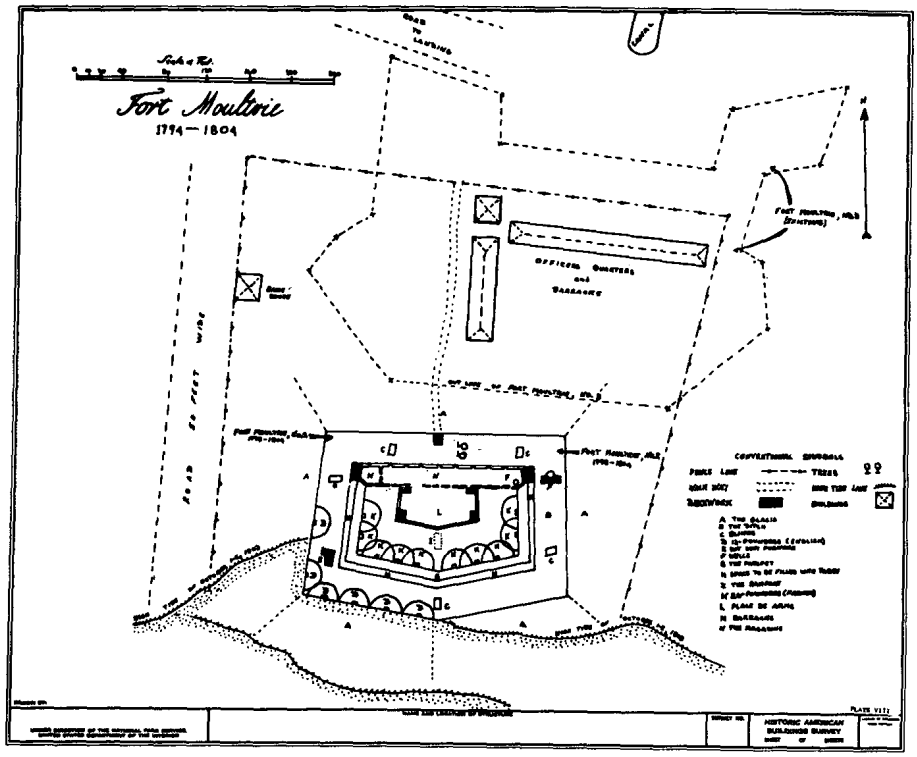


Fig. 27

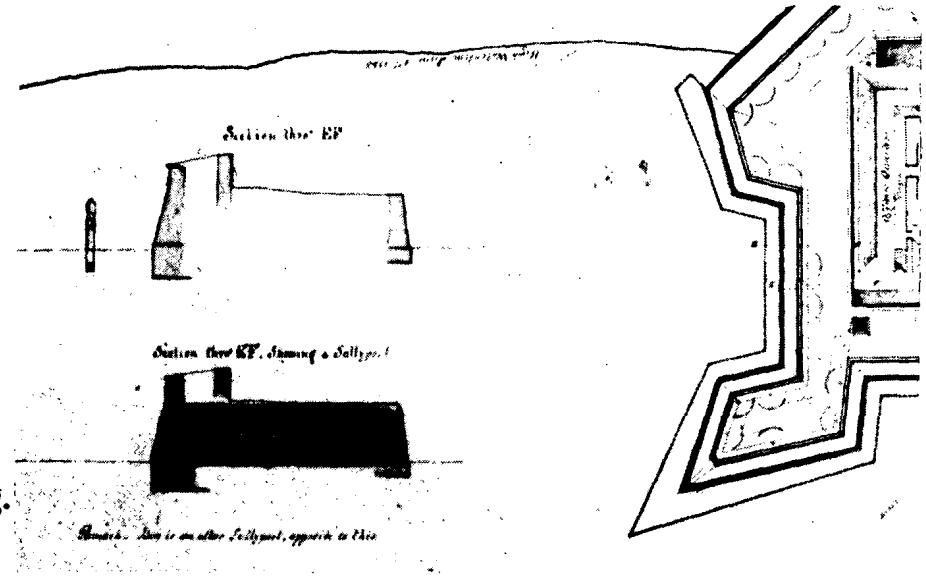


Fig. 28

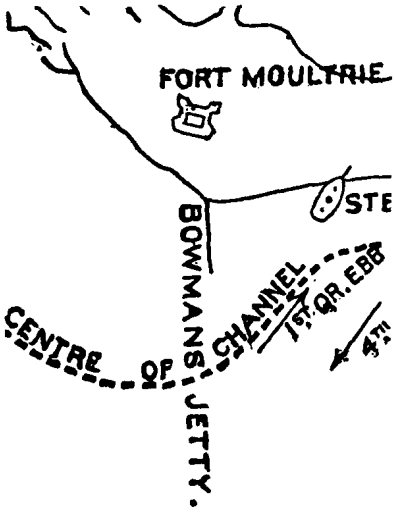
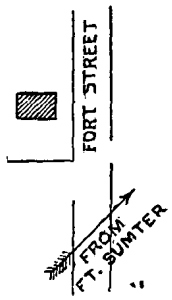


Figure 29



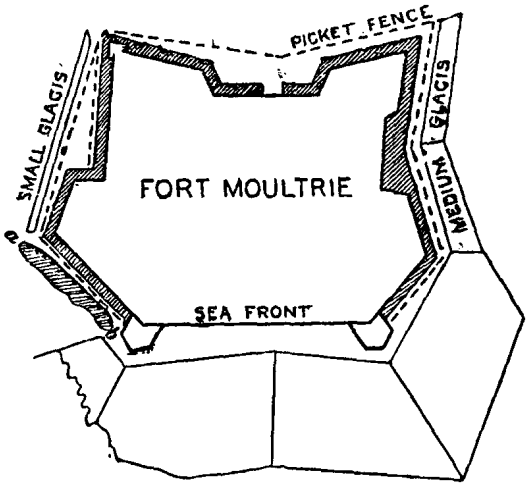


Figure 30

the brick sides of the fort itself as the primary anti-personnel defense, but the Confederates proceeded to fill the ditches and place sand embankments around the brick walls to bury the walls in a protective sand buffer against artillery bombardment (Bearss 1968b:Plate XXIV-XXVII,XXXIII; Scott 1880:I,92).

The photographs of the position of the main eastward-extending traverse of sand are very interesting in that they reveal that the traverse went across the area where the timbers were found archeologically (Fig. 1). This traverse as shown in Figure 1, is positioned using a plan of the traverse, drawn in 1863-1864, at the time it was in use (Corps of Engineers,1868,Figure 26, this report). Photographs also reveal the appearance of the traverse, extending over the area where the timbers were found, and show timbers both on the north and south of the traverse, lying in a jackstraw manner, as though not of any particular use relative to the traverse (Bearss 1968b:Figure 24, this report). They could have been used to move large guns around over the loose sand, but they might also have been dug up in the process of obtaining sand to build the traverse, and then left lying where they were pushed aside after being removed from their position in the earth. The timbers are certainly like those found archeologically, and the question is raised as to the archeologically revealed timbers being some part of the traverse, perhaps an underground gallery, but no such construction is seen in the engineer's profiles of the traverse (Fig. 26). The parallel archeological timbers run at a right angle to the Confederate traverse, and cannot be interpreted either archeologically or historically to have been part of the Confederate works of 1861.

There is an interesting piece of data from the photograph shown in Bearss' Plate XXV (Figure 24, this report). A large square timber with mortise and tenon construction used as a base for the palmetto cribbing above, very much as shown in our reconstructive designs for the First Fort Moultrie (Figs. 1 and 2). This photograph of a timber so used, plus the timbers lying in the area where the archeological timbers were found, might make one think that the archeological timbers were indeed some construction of the period of the Civil War. The preponderance of archeological evidence is contrary to this position, and from the engineer's profiles of the traverse there is no indication that such timbers were used in its construction.

The interpretation is that the timbers seen lying to the north and south of the traverse in these photographs are timbers from an earlier fort that were disturbed and dug out of position during the construction of the traverse by the Confederates. If this is the case, *we would not expect to find any timbers in place either immediately to the north of the traverse, or to the south,* both being low areas as revealed by the photographs. As we have seen in the section on the archeological-geological interpretation of the profiles of this area of the site, exploratory trenches revealed no timbers in either of these areas (Fig. 1). It seems apparent, therefore, that the construction of the traverse by the Confederates in 1861, disturbed the timbers on each side of the traverse, but protected the timber that lay beneath the traverse itself. Any further archeological work in the area to locate more timbers should be carried out with these points in mind.

Summary of the Testing of Hypothesis A

From the above examination of data from later time periods after the First Fort Moultrie several interesting points of comparison have

been made. However, *no* data dating later than the First Fort Moultrie is seen to be conclusive enough to present any credible challenge to our hypothesis that:

> THE TIMBERS FOUND IN THE AREA EAST OF THE THIRD FORT MOULTRIE ARE THE FOOTING TIMBERS FOR THE PLATFORM OF THE EAST SALIENT ANGLE, REENTERED ANGLE, AND CURTAIN WALL OF THE NORTHEAST BASTION OF THE FIRST FORT MOULTRIE CONSTRUCTED BETWEEN 1776 AND 1778 BY THE AMERICANS.

Hypothesis B , Based on Additional Archeological and Historical Data

After the above "Hypothesis A" was presented, a second archeological project was undertaken by the National Park Service at Fort Moultrie in the area east of the northeast bastion of the Third Fort Moultrie. This project, under the direction of Dick Ping Hsu and John Ehrenhard, exposed completely the timbers under consideration here, and revealed that at the northern end of the parallel timbers there is an attached timber extending toward the northwest, forming an obtuse angle at the point where Hypothesis A suggests the point of the salient angle (Fig. 1). This angle is certainly not in keeping with the shape of the northeast bastion of the First Fort Moultrie as outlined in Hypothesis A, suggesting a different interpretation.

Within a few days of the discovery of this angle in the timbers, Edwin Bearss discovered two letters from Lieutenant Colonel James Moncrief, a British officer which have an important bearing on the interpretation of the fort timbers found east of the Third Fort Moultrie. In his letter Moncrief states on March 18, 1781:

> The ruinous state of Fort Arbuthnot must be an object of some attention in the course of next year, for which I shall wait Lord Cornwallis' directions. (Moncrief, James, letter dated March 18, 1781. Copy in the Fort Moultrie Library).

The question of the location of Fort Arbuthnot, apparently named for Admiral Arbuthnot whose British forces captured Fort Moultrie, is answered in the second letter (Uhlendorf 1938:81):

> ...a new Fort which has lately been traced out upon Sullivan's Island a little to the Eastward of Fort Arbuthnot...(Moncrief, James, letter dated April 2, 1782. Copy in the Fort Moultrie Library).

These letters imply that the name of Fort Moultrie had been changed by the British to Fort Arburhnot, and that in March of 1781 the fort on Sullivan's Island, Fort Moultrie alias Fort Arbuthnot, was in a ruinous state. A most significant piece of information, however, is the fact that a new fort had been "traced out" to the eastward of Fort Arbuthnot, alias Fort Moultrie.

Further research in the South Carolina Archives in the Sir Guy Carleton Papers revealed a letter from Moncrief to Sir Henry Clinton dated March 13, 1782, stating that he was preparing materials for a "new fort upon Sullivans Island, in room of Fort Arbuthnot; which will not stand many months longer" (Microfilm Vol. 88, Doc. 9808 - Vol. 92, Doc. 10056; Vol. 90 #9955).

From this information we can state that it appears that the British changed the name of Fort Moultrie to Fort Arbuthnot, and that by 1781 the fort was in a ruinous state. By April of 1782 the British had begun a new fort "to the eastward" of the old fort. Just how far toward completing this new fort the British came before they left South Carolina nine months later is not known (Moultrie 1802,II:361).

With this information we have an additional fort to consider in our interpretation of the timbers found east of the Third Fort Moultrie. This is especially true in relation to the newly discovered archeological data indicating an obtuse angle where Hypothesis A had suggested an

acute, salient angle of the First Fort Moultrie bastion might be found. The new archeological data suggests that what was interpreted as a salient wall of the northeast bastion in Hypothesis A, might well be the west curtain wall with reentered angles for opposite bastions, of a smaller fort lying to the east of the First Fort Moultrie (Fig. 1).

With the archeological data suggesting this interpretation for the parallel timbers of this fort, and the documents indicating that the British built a fort east of Fort Moultrie in 1782, it appears that these timbers may well represent this British fort of 1782 (Fig. 1). The fact that little occupation debris was found in association with these timbers is in keeping with the fact that this new fort may not have been completed, and was certainly not occupied for long, since the British left South Carolina within nine months after they said they had "traced out" the new fort.

With this new documentation and new archeological data in hand, we can state Hypothesis B, which is:

> THE TIMBERS FOUND IN THE AREA EAST OF THE THIRD FORT MOULTRIE ARE THE FOOTING TIMBERS FOR THE PLATFORM OF THE WEST CURTAIN WALL AND REENTERED ANGLES OF A FORT "TRACED OUT" TO THE EAST OF THE FIRST FORT MOULTRIE BY THE BRITISH IN 1782.

If this Hypothesis B is true, then it follows that the northeast bastion of the First Fort Moultrie would lie somewhere west of this west curtain wall of the British fort of 1782. By using the 550 foot distance from bastion to bastion indicated on the James Map, and using the northwest bastion as shown on the map in Figure 1, the Hypothesis B location of the northeast bastion of the First Fort Moultrie is positioned (Fig. 1). This position of the northeast bastion is seen to correlate with the northeast bastion for the second and third forts, resulting in this bastion having the same basic location and angle on all three forts (Fig. 1).

The acceptance of Hypothesis B as the most valid statement interpreting

the timbers found east of the Third Fort Moultrie does no violence to the archeological, chronological, and other data presented under Hypotheses A. Given the data under Hypothesis A, the interpretation arrived at is valid. However, in the face of additional historical and archeological information, Hypothesis B appears to be the most valid alternative for interpreting the fort timbers found east of the Third Fort Moultrie.

Summary of the Appearance of the First Fort Moultrie

From the historical documentation presented in the previous section we have seen that the First Fort Moultrie was far more than a hastily erected battery of sticks and sand on Sullivan's Island. The size of the fortification was quite large, being 550 feet from one bastion to the other. It was positioned on the island at the most advantageous point to command the deep-water channel approach to Charleston that passed directly in front of the fort. The positioning of the fort in relation to the channel was so important that the fort was built in a marsh. The British fort of Hypothesis B, represented by the timbers found east of the Third Fort Moultrie was only two feet above sea level, reflecting the similar low-lying location of Fort Moultrie to the west.

Fort Moultrie was a double battery work, though at the time of the battle only a single battery may have been employed, with a second battery possibly being added before 1780 when the parapet height was raised to 20 feet. The guns were mounted on a wide platform, probably 25 feet wide, as revealed in the timbers archeologically revealed for the British fort of 1782. We might assume that similar construction was used in the First Fort Moultrie and in the British fort of 1782, since both are of the same Revolutionary War time period, even though the British fort was apparently considerably smaller than the First

Fort Moultrie. The architectural size would not likely affect the width of the gun platform. A sixteen foot thick parapet of cribbed palmetto logs is well documented, and protected the gun platform and the rooms beneath. These rooms, complete with chimneys, were likely the officer's quarters, with some rooms below the platform being used for a lower battery of guns, probably only on the sea face of the fort.

The area inside the fort was a morass, as it was before the fort was constructed, and it was so marshy that the garrison could not fall into formation inside the fort if the tide was high. There was said to be no ditch around the exterior of the fort, though a section of fortification ditch was discovered in front of the north curtain wall of the first fort, filled with midden thrown from the fort by Americans and British, and this is discussed in a later section of this report. We know, therefore, that at least part of the First Fort Moultrie had a ditch accompanying it. Flanking cavaliers were attached to the northernmost bastions, and a traverse was built across the center of the fort before the battle. A canal was cut from the south toward the north curtain of the fort (Fig. 2).

Ancillary Data for the First Fort Moultrie

In searching for parallel examples of the type of construction the data indicate was used at the First Fort Moultrie we find that there is not an abundance of information on casemated fortifications or double battery works compared with other types of fortification. The nearest parallel is, of course, the British fort of 1782, represented by the timbers thought to represent the support timbers for the fort platform. The 25 foot distance between these timbers is fixed by the

distance required to fire a field piece behind a parapet (Harold Peterson, personal communication), and thus would not change dramatically between American as opposed to British fort construction.

Stockaded forts with parapets of earth and an accompanying ditch have been in South Carolina since the earliest days of European occupation, such works being found archeologically at the Charles Towne Site dating from 1670 (South 1971). By the French and Indian War Period square, two-or four-bastioned forts were constructed by digging a ditch and throwing up a parapet, then stockading the parapet, such as have been found archeologically at Fort Dobbs in North Carolina (South 1967), and Fort Prince George (Combes 1974). At the time of the Revolution similar works were being constructed by the British at Ninety Six (South 1971;1972), at Camden (Strickland1971), Fort Watson (Ferguson 1973), and elsewhere in South Carolina where archeological work has been carried out.

At the Charles Towne Site, we have perhaps the nearest archeological parallel of the period of the Revolution that can be used as an ancillary aid in the interpretation of the fortification data from the First Fort Moultrie. This is in the form of an excavated redoubt built by the British and manned by Hessians under British leadership during the seige of Charleston in 1780 (Uhlendorf 1938; South 1973). The reconstructive design of the redoubt represented by the archeological data is seen in Figure 4 of this report. The form of this redoubt very closely defined the amount of space available for operating the single artillery piece mounted on the platform. It provided a total distance of 22 feet, about the minimum allowable for operating such a field piece (Harold Peterson personal communication). This platform size is

very close to that of 25 feet indicated by the archeological timbers, and shown as the platform in the reconstructive design for the First Fort Moultrie (Fig. 1). The parallel here between the British redoubt at Charles Towne and the First Fort Moultrie lies in the casemated (enclosed bunker) type of construction, with the artillery piece positioned on an upper gallery or platform, with the room beneath, as well as the gun, protected against artillery shot and shell by a parapet of earth. The discovery of such an archeologically revealed enclosed bunker beneath an artillery platform is a rare occurrence, this example being the only one this researcher has been able to discover beyond the Fort Moultrie example.

The use of parallel timbers filled with sand or earth, however, is a widely used practice for constructing parapets, and references to this are found in the literature. The following description of eighteenth century parapet construction covers the subject very well.

> The horizontal log wall was universally used in timber forts where protection was needed against cannon fire. Two walls of squared logs laid tightly one upon the other were built about ten or twelve feet apart. The two walls were held in position by bonding logs which joined them at intervals and were secured by dovetail connections. This basket work of logs was then filled with earth. None of the portable cannon of the period could pierce this wall. This type of construction may be seen in restored Fort William Henry, Lake George, New York. One of the bastions formed of horizontal logs was reserved for the powder magazine, a structure with walls and roof of logs, partially sunk in the ground and covered with about four feet of earth. This formed a raised platform on which cannon could be mounted (Stotz 1958:80).

The primary difference between the Fort Moultrie parapet and this description is the use of palmetto logs instead of the entire timber construction described by Stotz. The magazine in the bastion described by Stotz is a relatively close parallel to the Charles Towne

redoubt situation where a magazine or room was found beneath the gun, complete with the hearth used by the Hessian soldiers stationed to man the gun (Fig. 4).

One other reference relating to the type of construction involved in the First Fort Moultrie is seen in a cross-section sketch of Redoubt #4 at West Point, New York, made by Count Thaddeus Kosciuszko in 1780 (Fig. 5). This drawing shows a parapet filled with earth, with horizontally laid logs on the exterior face, and an upright construction around the interior room or chamber. This is exactly the type of construction indicated by the archeological record at Charles Towne (Fig. 4), with the exception that the Charles Towne redoubt was much smaller than the New York example. This is the only drawing of a room beneath the platform, that is known to this researcher, that dates from the period of the Revolution. Such data are extremely rare (Harold Peterson, personal communication).

It will be seen that at the Charles Towne redoubt there was apparently a trail-carriage gun involved since a fan shaped platform was found, thereby implying such a piece (Fig. 4). At Fort Moultrie, however, we have shown ship carriage guns positioned on the platform in our reconstructive designs (Fig. 1). Both trail and ship carriage pieces as well as mortars were no doubt in the fort, but a large number of the men making up William Moultrie's Second South Carolina Regiment of Foot were seamen, and it is most appropriate that such guns be shown in position there as well as the trail-carriage type (Moultrie 1802:I,93).

From this look at some of the ancillary data relative to the First Fort Moultrie construction as shown in our reconstructive design, it can

be seen that there is relatively little such data available on American forts built to withstand naval assaults in the period of the Revolution. The Charles Towne and West Point redoubts were designed to face fire from enemy vessels, and such was the case at the First Fort Moultrie. There is, therefore, a genetic and functional relationship between these forts and the various Forts Moultrie, as well as Fort Johnson, and Sumter, which also served the same purpose.

Explanation of the First Fort Moultrie Data in the Context of Eighteenth Century Fortification

From the foregoing presentation it is apparent that the First Fort Moultrie represents a seacoast fortification with a specific function, the protection of the city of Charleston (Moultrie 1802: I,123-24). The vital position of Sullivan's Island had long been recognized in the defense of the harbor, with Captain Florence O'Sullivan being stationed there in 1674 with a signal cannon to notify residents of the approach of vessels (Bearss 1968a:2). This signal function served well in 1706, and by 1743, a battery was requested to be built there to cover the channel (Bearss 1968a:2; Journal of the Commons House of Assembly of South Carolina, March 10, 1743:289). The reason the site on Sullivan's Island was so important for the defense of the harbor is that the deep water channel comes close to the island at that point. Witness, Louis-Antoine Magallon de la Morlière provides us with an eye-witness account written in 1780, that explains the critical position of Fort Moultrie.

> The harbor is one of the most secure in New England, the access is very difficult and one that ought not to be risked without having a pilot who knows well a sand bar which almost entirely encloses the opening of the harbor and which permits only a very narrow passage for frigates or at the

> very best for ships of fifty [guns] that are obliged to land their artillery and await the high tide which occurs only with full moon on its waxing and that covers the bottom with twelve or thirteen feet of water. After having passed this bar vessels are obliged to sail close to a shoal of gravel that leads them within easy cannon range of Fort Moultrie built on the tip of... [Sullivan's Island] that is the most advanced into the sea. From there they enter the harbor that is defended by several batteries on the shore facing toward the sea (Murdoch 1966:141).

The Americans well knew the traditional importance of the site on which Fort Moultrie was built, and when Colonel Gadsden took over command in the Charleston area on February 13, 1776, he saw, as did those already involved in construction of forts and batteries in the area, that the fort on Sullivan's Island was "the key of the harbor" (Moultrie 1802:I,123-24). The same factors that prompted the construction of Fort Moultrie on Sullivan's Island in 1776, and prompted the Charles Towne settlers to send O'Sullivan there in 1674, were responsible for a continuous sequence of fortifications to be built and repaired there in the centuries to follow (Bearss 1968a;1968b). A French intelligence report of 1778 deals with the significance of the particular features of the entrance to Charleston harbor.

> It is true that the entrance is difficult because of a bar which, while providing security, permits an easy entrance only for those ships which draw less than twelve and a half feet of water; those that are larger are obliged to await the tide. Once this bar has been passed ships entering the port are obliged to pass under the cannon of a sizeable fort situated to the north, named Fort Moutry [Moultrie], in which there is a double battery mounted with a hundred heavy cannon of thirty-six and twenty-four pounds... (Kennett 1965:109).

The construction of the First Fort Moultrie was under the engineering supervision of Ferdinand De Brahm, nephew of William Gerard De Brahm

the more famous military engineer (DeVorsey 1973:53). This man had trained under his uncle, and was no doubt familiar with the basic works dealing with fortification, such as the 1740 treatise *A Manual of Siegecraft and Fortification* by Sebastien Leprestre De Vauban (Rothrock 1968), and the 1746 *Treatise of Fortifications* by John Muller (Muller 1746). Although these works deal in great detail with fortifications, there are no illustrations of coastal fortifications with casemated guns or rooms beneath the platforms such as was present in the First Fort Moultrie. However, Muller does give some instructions for the construction of fortifications "fituated near rivers, lakes, or the fea" (Muller 1746:159).

> ...it is not fufficient that the harbour is fafe against ftormy weather, they fhould likewife be fo against an enemy both by land and water; for it often happens that fhips are deftroyed where it was imagined they were fecure, which is of too great a confequence not to be provided againft; for which reafon, forts or batteries muft be built in the moft convenient places, to prevent the enemy's fhips from coming too near, fo as to be able to canonade thofe in the harbour, or fling fhells amongft them; and if there is any danger of an enemy's approach by land, high ramparts and edifices muft be built, fo as to cover them (Muller 1746:160).

Muller also emphasizes the need to have a landing place for goods and building materials close to the fort,

> ...as water carriage is very advantageous for transporting goods from one place to another, as likewife for bringing the neceffary materials, not only for building the fortification, but alfo the place itfelf, the expenses will be leffened confiderably, when this convenience can be had...(Muller 1746:166).

This admonition is seen to have been followed by those who built the canal to the north entranceway area of Fort Moultrie for the purpose of bringing supplies to the fort (Bearss 1968a:77; Figure 2, this

report). The canal is discussed in another section of this report.

In discussing forts, Muller outlines the various parts, the parapet, the fraise (horizontal posts placed in the parapet), a palisade (upright or slanting posts in a row), and the ditch (either wet or dry) accompanying the exterior side of the parapet (Muller 1746:197). It is interesting, however, that the First Fort Moultrie was said to have been without the usual ditch accompanying it. This witness to the appearance of the First Fort Moultrie was Baron de Kalb, who wrote his account in a letter dated June 23, 1777, and gave an explanation of why the ditch was absent:

> The entry of the Port is formed by James Island in the Ashley River and by Sullivan's Island in the Bay of Cooper River. On the first of these Islands is built Fort Johnson, a regular Square with a type of Line or entrenched Camp on two sides, the length of the bank terminated by a Battery on each side. On the second Island is the fort formerly named Sulivan and today [called] Fort Moultry, the name of the officer who in command there on June 28, 1776, during the attack made by the English and where they were repulsed with the loss of several Vessels. This fort is also a regular square under whose Cannons the Vessels which arrive at the Bar are obliged to pass (they call the Bar a sandbar in the front of the Port, which only the Pilots know the passages). By forced labor they made this fort more respectable (for at the time of the attack only one side was finished); they made it more impregnable by raising the height to twenty feet, thus better to safeguard its defenders against artillery. In these fortifications they use only palm tree wood to form the exterior; and sand or earth to fill up the inside. A breach in this wood is impossible, it never bursts, and cannonballs and their holes close up again, or better, when the blow has lost its force, the shot is sent back by the elasticity of the wood. These forts would be of little use in Europe. They are without moats and outside works, easy to scale, even without ladders, for the trees can be easily

> grasped by hands and feet. But here they count a great deal on the valor of the troops, all of them good marksmen, and on a plentiful artillery to keep the enemy at a distance (Sifton 1965:107).

It is interesting to note that "the valor of the troops" is the equalizing force said to make the use of a ditch at Fort Moultrie unnecessary. Such personality motivations are frequently resorted to in efforts to explain cultural and historical phenomena, and the opposite view is "the British were bungling" approach used by Kepner (1945:93). A most often used approach to the explanation of historical data relative to the battle of Fort Moultrie is "the palmetto log" explanation, exemplified by the account of Baron de Kalb, quoted above. In this view the success of the Americans hinged on the absorbtive quality of palmetto logs. The "great man" approach uses figures such as William Moultrie or Sir Peter Parker, and explanation and analysis hinges on what they did or did not do.

In this report we have used the scientific approach to integrate history and archeology to provide a framework for the analysis and synthesis of data. It is fascinating to observe that John Muller in 1746 used a similar deductive approach in his synthesis of fortification data in his *Treatise of Fortifications* (Muller 1746), thirty years before the battle of Fort Moultrie.

In his discussion of coastal fortifications Muller not only outlines the factors to be considered in locating the site of a fort, as we have seen earlier in this section, but he provides us with a discussion of what will happen when double battery forts such as Fort Moultrie are attacked by vessels such as those of the British fleet. He says that when the fort has a good parapet shielding the battery of guns that:

> ...when the fhip comes near and opposite to it, fire all the guns at once, pointing nearly at the fame place a little above the water, which will hardly fail of deftroying it (Muller 1746: 203).

There is a great uncertainty if firing from a ship, he reports, since there is a continual motion, and that if the battery is well made, with a good parapet, the shells striking the fort will do little damage (Muller 1746:203). In an objective manner he cites both sides of the question:

> There are fome who are of opinion, that fhips will always be able to deftroy a fort, on account that they have more guns within a lefs compafs than any battery on land can have; and if the contrary happens, it is more owing to the cowardife of the commander, than to any thing elfe; but this is a wrong notion, as we fhall make appear. For fuppofe a firft rate man of war, which has three decks, and therefore may have perhaps four, five or fix guns to one; the chance of hitting the battery on account of the fhip's motion, is not above three to one; and when the fhot ftrikes the parapet, it can do it but very little damage, excepting it fhould hit a gun by chance, which it would difmount; but this is not fo eafily done, confidering the fmallnefs of the gun with regard to their intervals; it is certain not one gun in 30 will hit; whereas the battery may watch the opportunity, fo as when the fhip comes near and oppofite, to make a general difcharge with all the guns; where there will be not one that miffes, and every fhot will make its hole into the fhip, and deftroy all things that is in its way. From whence it may be concluded with juftice, that fhips are never able to deftroy any fort, when it is conftructed in the manner it fhould be.
>
> If the nature of the ground is fo as to admit of making two batteries, one above the other, it fhould not be neglected; the one nearly a level with the furface of the water, to fire in a horizontal direction, and the other to plunge into the fhips; fo that if the troops placed on the lower, being well protected in the front by a high parapet, and covered above the arches or planks, it will not be in the power of fhips to deftroy them, as has been done heretofore (Muller 1746:203-204).

Leaving aside for a moment the valor of the men, the sponginess of palmetto logs, the bungling of the British, and the leadership of great men, we might well see the victory of the Americans over the British on June 28, 1776 as a necessary outcome predicted by Muller thirty years before. Muller conducted a deductive evaluation of the data on fortifications from his own experience, from Vauban's work, and synthesized so that predictions as to outcome could be made, a very necessary requirement when engineering military fortifications and planning armed conflicts. The value of Muller's synthesis is not only in that it impressively parallels the situation at Fort Moultrie thirty years after he wrote, but rather in the approach he used. He did not pick some *personality characteristic* of the actors in the drama of fortification history around which to construct his thesis, he did not pick a minor facet of *architectural design* such as palmetto logs, he did not pick some minor *event* such as an incident involving the direction of the wind, or the symbol of a flag raising on which to focus his discussion. Rather, he produced a synthesis, based on his analysis. The deductive hypothesis used by Muller is presented as follows to illustrate how similar is his approach to that of the historical archeologist.

Synthesis (Allows Hypotheses to Emerge)
historical documentation
comparative research
personal experience
environmental analysis

Hypothesis (Example from John Muller in 1746)
given A - (a fort like Moultrie)
given B - (ships like the British vessels)
given C - (Eighteenth century artillery)
given D - (the location of fort to channel)
given E - (a battle between the two)

Prediction: "It will not be in the power of the fhips to deftroy" [the Fort].

The "Generalized Model for the Analysis and Synthesis of Data in the Historical Archeology Process with Specific Reference to the Fort Moultrie Data" (Fig. 31) provides the outline upon which this report on the exploratory archeology at Fort Moultrie has been modeled. A study of this model should help the reader to place into perspective the various facets of data relating to the phenomena of Fort Moultrie.

In "Setting the Stage" we have the broad events leading to the construction of Fort Moultrie, which was "The Stage" for "The Drama" of the conflict of the Revolutionary War during those years from 1775 to 1782, on which stage "The Actors" such as William Moultrie and others played their bit. Through the process of "The Scientific Historical Archeology Framework for Analysis of Data", the "Reconstructive Interpretation" and this historical archeology report have emerged (Fig. 31).

A Generalized Model for the Analysis and Synthesis of Data in the Historical Archeology Process, with Specific Reference to Fort Moultrie Data

Stanley South, Archeologist

Analysis

Setting the Stage

Causal Processes
- political
- economic
- social
- cultural
- military
- ideological
- geographic

The Stage

Locating the Fort or Occupation Site
- in relation to river channel
- within artillery range of the ship channel
- in relation to a vital port
- in a deep marsh, a morass
- on the beach

Construction of the Fort
- architectural design
- professional engineer
- coastal defense type
- cribbed log parapets, earth filled
- timber platform
- impressed labor
- Negro labor
- double battery
- large size
- four-bastioned square shape, with cavaliers
- artillery - ship carriage, trail carriage, mortar
- building materials
  - palmetto logs
  - brick
  - timbers
  - lime
  - sand
  - yellow pine
  - scantling
  - hardware

The British Fleet
- the warships
  - *Thunder-Bomb*
  - *Friendship Armed-Ship*
  - *Acteon*
  - *Syren*
  - *Sphynx*
  - *Bristol*
  - *Experiment*
  - *Solebay, etc.*
  - etc.
- the support vessels
  - transports
  - supply ships

The Actors

The Personnel
- American
  - South Carolina Regiment of Foot
  - South Carolina Artillerists
  - Continental Soldiers
  - navy personnel within foot regiments
  - South Carolina Militia
  - Catawba Indians
  - Leaders
    - William Moultrie
    - Charles Lee
    - Christopher Gadsden
    - Charles Pinckney
    - Francis Marion
    - Isaac Huger
    - William Thomson
    - Ferdinand DeBrahm
    - William Scott
    - etc.
- British
  - navy personnel
  - army personnel
  - Cherokee Indians
  - regiments of foot
  - Irish regiments
  - Leaders
    - Sir Peter Parker
    - Sir Henry Clinton
    - Admiral Marriot Arbuthnot
    - etc.

The Drama

The Events and Occupation
- Deployment
  - ships
  - artillery
  - men
- Action
  - bombardment
  - seige
  - blockade
  - assault
  - retreat
  - investiture
  - occupation
  - surrender
  - repulse
  - incidents
    - the designing of a flag
    - fire
    - *the flag hit by artillery fire*
    - the flag raised by Sergeant Jasper
    - grog is drunk from a bucket
    - artillery shot absorbed by palmetto logs
    - mortar bombs absorbed by the marsh
    - ships run aground
    - *ships burn and explode*
    - the army watches the action
    - guard duty
    - *feu-de-joie* is fired in commemoration
    - ships hit by artillery shells
    - men are killed
    - a leader has the gout
    - a leader has his pants shot off
    - signals are misunderstood
- Environment
  - the weather is hot
  - the tide is falling
  - the wind is blowing
  - the direction of the wind
  - the tide is high inside the fort
  - hurricanes hit .
  - garrison duty in the heat of summer
  - garrison duty in the midst of a northeaster
  - the food is bad
  - clothing is poor and scarce
  - the roof leaks

Subsistence and Goods
- Origin
  - purchase
    - local
    - allies (France, etc.)
    - West Indies, England, New England
  - foraging parties
    - "rooting" (digging potatoes)
  - hunting
  - acquired from Indian allies
  - supplied from England (British)
  - captured from the enemy
  - embargo against trade with England
- Food
  - officers
    - tea
    - coffee
    - rice
    - sugar
    - wine
    - brandy
    - salt
    - pork
    - mutton, veal, poultry
  - enlisted men
    - "mutton, veal, poultry are not soldiers' food"
    - corn
    - potatoes
    - beef
- Garbage disposal
  - "filth" to be buried outside the abattis
  - refuse often thrown under foot
  - *discarded in the fort ditch (a usual procedure)*
  - broken artifacts discarded
  - construction rubble often used as fill
  - human waste, bones, trash, rubble discarded in privies
- Clothing
  - buckles
  - buttons
  - hooks and eyes
  - shoes and leather
  - fabrics
  - blankets
- Tools
  - axes
  - knives
  - shovels
  - entrenching tools
  - chisels
  - saws
  - etc.
- Goods
  - ceramics
  - glassware
  - tinware
  - treen
  - pewter
  - nails, spikes
  - building hardware
  - etc.
- Military
  - muskets
  - ordnance
  - artillery shot
  - musket balls
  - gunflints
  - powder
  - bayonets
  - etc.
- Motivation
  - obligation
  - loyalty
  - patriotism
  - valor
  - bungling
  - poor judgment
  - stupidity
  - jealousy
  - envy
  - pride
  - applause
  - anger
  - resentment
  - fear
  - courage
  - boredom
  - humor
- *Emergent Symbolism*
  - blue uniforms (from indigo dye)
  - crescent moon on soldier's caps (from?)
  - the blue flag with crescent moon
  - the flag in "uniform" with the men
  - the palmetto logs
  - the palmetto tree
  - the name "Moultrie"
  - Jasper with the flag

Comparative Ancillary Data
- Types of Parallel Data
  - chronological
  - causal
  - environmental
  - architectural
  - constructive
  - personnel
  - events
  - motivational
- Level of Comparison
  - on-site
  - local area
  - regional
  - national
  - world-wide

Synthesis

Historical Archeology

The Scientific Historical Archeology Framework for Analysis and Synthesis of Data
- observation and data collection
  - archeological
  - historical
  - architectural
  - cultural
  - environmental
- data analysis
- cultural-historical synthesis and interpretation of data
- explanation of the patterning emerging from the data
- creative imagination
- new hypothesis formation for use in further research

Secondary By-Product

Reconstructive Interpretation
- Illustrative Reconstruction
  - plan and profile, perspective drawings
  - paintings
  - dioramas and models
- Restoration (surviving architecture)
  - houses and buildings
  - fortifications
  - gardens
- Reconstructions (rebuilt from scratch)
  - houses and buildings
  - fortifications
  - villages
- Explanatory Exhibits
  - authenticated "research house" exhibits
  - palisades placed in archeologically revealed ditch
  - parapets placed beside archeologically revealed ditch
  - ruins left exposed as exhibits
  - timbers used to mark the site of a bastion
  - field exhibit cases explaining an historic site

South 3-1974

Figure 31

III

EXPLORATORY ARCHEOLOGY IN THE ENTRANCE AREA OF THE FIRST FORT MOULTRIE

EXCAVATION

The primary research goal for the exploratory project at Fort Moultrie was the discovery of the First Fort Moultrie, and the architectural relationship of it to the second and third forts. Excavation was begun in the area east of the Third Fort Moultrie with Trenches 2 and 3, and when these proved to have relatively recent material at from three to four feet beneath a heavy deposit of water laid sand, excavation was moved to the area to the north of the Third Fort Moultrie (Fig. 32). This was done in the expectation that the hurricane laid sand deposits would not be as deep in this protected area of the site, and therefore evidence for the First Fort Moultrie might be found at a more shallow depth. Once this evidence was found, the plan was to move again to the area east of the Third Fort Moultrie and excavate according to the dictates of data found north of the Third Fort Moultrie. Another reason for working in this area north of the Third Fort Moultrie was to examine an hypothesis outlined by Edwin Bearss, historian for the National Park Service, who has said, "The north curtain of Fort Moultrie, Number 3, is located on or near the north curtain of Fort Moultrie, Number 1" (Bearss 1968a:78). Bearss suggested that since the first fort was larger than the third fort, "...a trained archeologist might pinpoint some of its remains and thus verify the location of this fort" (Bearss 1968a:79). He had also constructed a map superimposing the three forts using historical information, and utilizing the canal on each map as the key

FIGURE 32

A view of the area north of the Third Fort Moultrie facing north, during the exploratory project. Note Osceola's grave to the left.

FIGURE 33

Positioning well points in the west end of Trench 5, assisted by John Leo Truesdell of the Sullivan's Island Water and Sewer Department. Note the power screen used to sift all layers in this stratigraphic control trench.

Figure 32

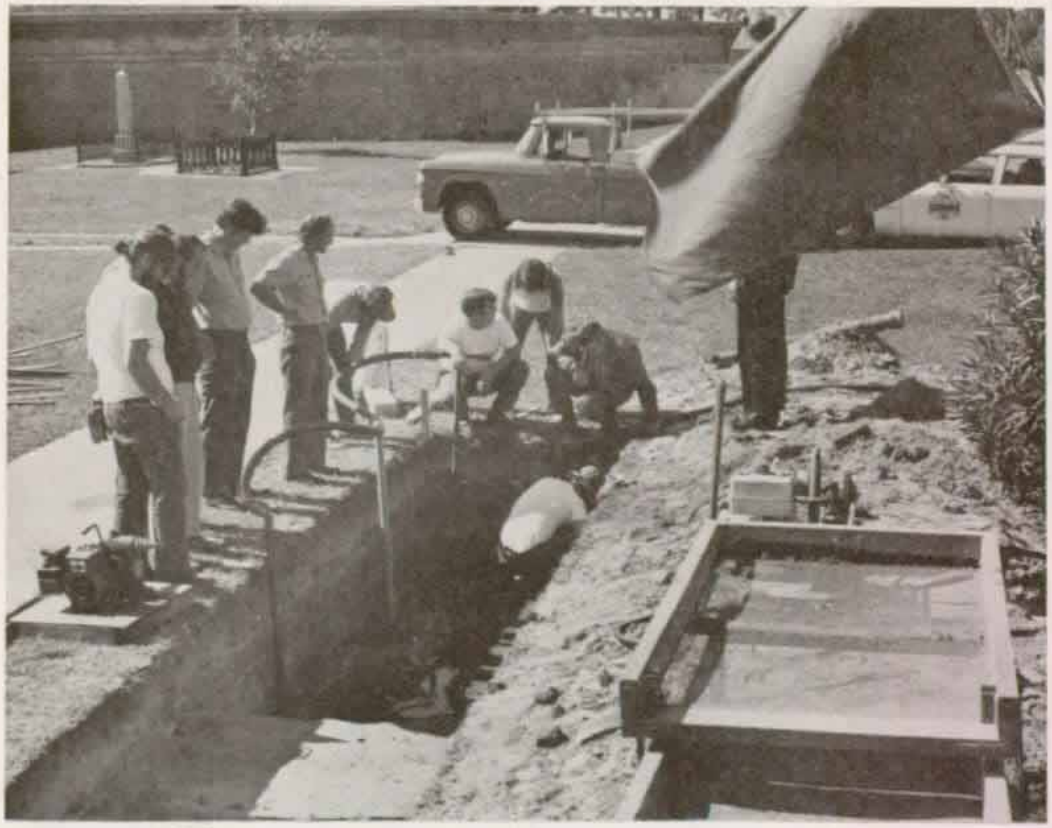


Figure 33

for alignment, and this map revealed a part of the northwest bastion of the first fort located to the east of the northwest bastion of the third fort (Bearss 1968a: Plate VII; Figure 7, this report). For this reason excavation in the area east of the northwest bastion of the third fort was considered a prime goal of the exploratory project.

In order to understand the geology of the area north of the Third Fort Moultrie, to pinpoint the area of the canal shown on the maps of Fort Moultrie, and to avoid the area considered of major importance until an understanding of the stratigraphy was obtained, Trench 4 and 5 was cut as a stratigraphic control trench. The entire contents from top to bottom were sifted (Figs. 33 and 36). In the area of the canal, midden was found to a depth of five and one-half feet (Figs. 36 and 8). The earliest cultural material from the area of the canal was from the period around 1800, other trenches were cut with the backhoe closer to the northwest bastion of the third fort in the hope that eighteenth century artifacts would be found with eighteenth century features associated with them. In Trenches 17,18, and 22 artifacts were found in an oyster shell midden deposit lying at a depth of three feet (Fig. 34), and at the eastern end of the trench a five foot wide ditch outline was seen (Fig. 37). This ditch proved to be the moat paralleling the north curtain wall of the first fort, at a distance of fourteen feet from the parapet, providing a berm of that width (Fig. 1). Along this berm a large quantity of garbage and trash was discarded by the American forces on the site from 1776 to 1780, and in the ditch was discarded the trash of the British who occupied the site from 1780 to 1782 (Bearss 1968a). This was in the exact area indicated by Bearss as likely containing evidence for the northwest bastion of the first fort, and

FIGURE 34

North profile of Trench 17, showing the oyster shell midden layer beneath the mid-nineteenth century brick road. This midden was from the American occupation of the Fort Moultrie site, and has been termed the American Midden throughout this report.

FIGURE 35

John Prescott in Trench 52, with the cypress log, and edge of the entrance-blind ditch in the right center. The log still had the roots attached, and these extended into the white sand below the black humus layer onto which the eighteenth century American midden deposit was thrown, from 1776 to 1780 occupation of the site. The midden is seen in the profile in the left center.

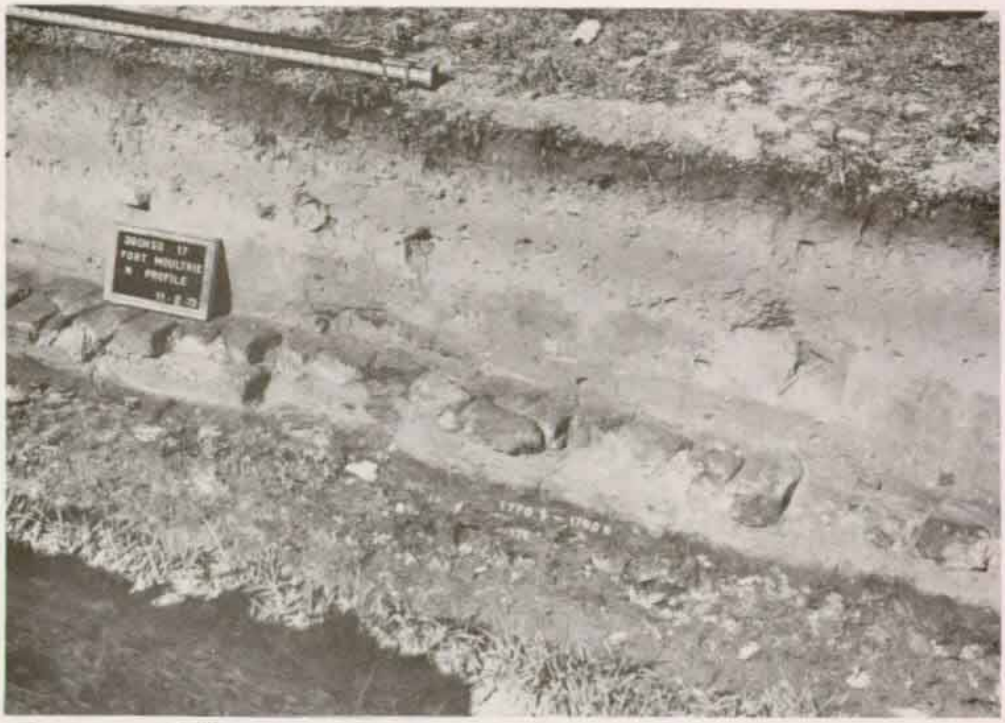


Figure 34

Figure 35

archeological evidence for the northwest bastion was indeed found, along with clear evidence for the position of the fort gate.

ARCHITECTURAL DATA

The North Curtain and Northwest Bastion Position for the First Fort Moultrie (Provenience Nos. 27,37,68,56,75)

The primary architectural feature in the excavated area north of the Third Fort Moultrie relating to the first fort is the five foot wide moat (Figs. 13 and 37). This ditch extends for 120 feet from a point 35 feet north of the gateway to the Third Fort Moultrie, toward the northwest to a point at the edge of the curb for Middle Street (Fig. 2). This ditch contained black midden and brick-bat fill in Provenience areas 37, 68, and 56, as well as artifacts which date from the 1780's, apparently during the British occupation of the site from 1780 to 1782 (Bearss 1968a:3,13; 1968c:135). Particularly characteristic artifacts are the many bone button blanks found in the ditch (Fig. 39). The importance of this is seen in the identification of the small section of this moat ditch on the north side of Middle Street in Trench 74, where Feature 75 is seen (Fig. 2). Feature 75 contains artifacts such as those characterizing the ditch fill in Features 37, 68, and 56, complete to the many bone button blanks. This comparison allows us to identify this Feature 75 as a continuation of the moat seen on the south side of Middle Street. This being the case, it is apparent that the ditch has made a turn from a northwest direction to a northeast direction somewhere beneath Middle Street (Fig. 2).

FIGURE 36

Stratigraphic layers in the north profile of the west end of Trench 5, the stratigraphic control trench for this area of the site at Fort Moultrie. When the water level was pumped lower, this area was excavated to sea level depth, with artifacts at the deepest layer apparently being in the bed of the canal.

FIGURE 37

The dark outline of the First Fort Moultrie moat ditch in Trench 22, (Feature 27). Note the darker impression of the palmetto logs near the left profile in the ditch fill. A dog was found beneath the palmetto logs in the ditch fill.

FIGURE 38

The south and east profiles of Trench 39, showing palmetto logs protruding from the corner of the trench from the "F" layer, with the "E" layer of the period of the Second Fort Moultrie separated from it by a layer of yellow sand. The south edge of the fort moat ditch can be seen in the foreground.

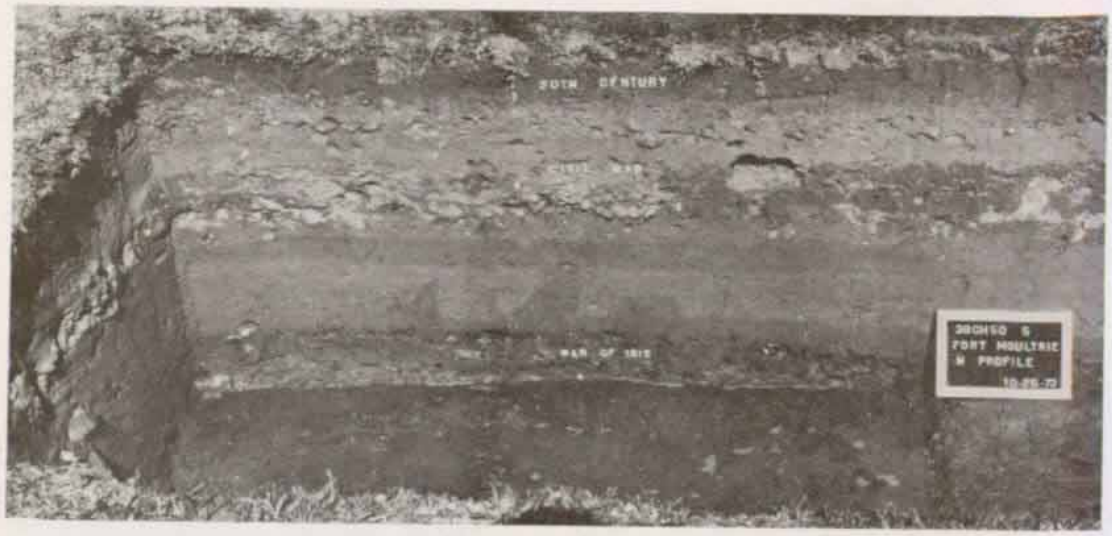


Figure 36

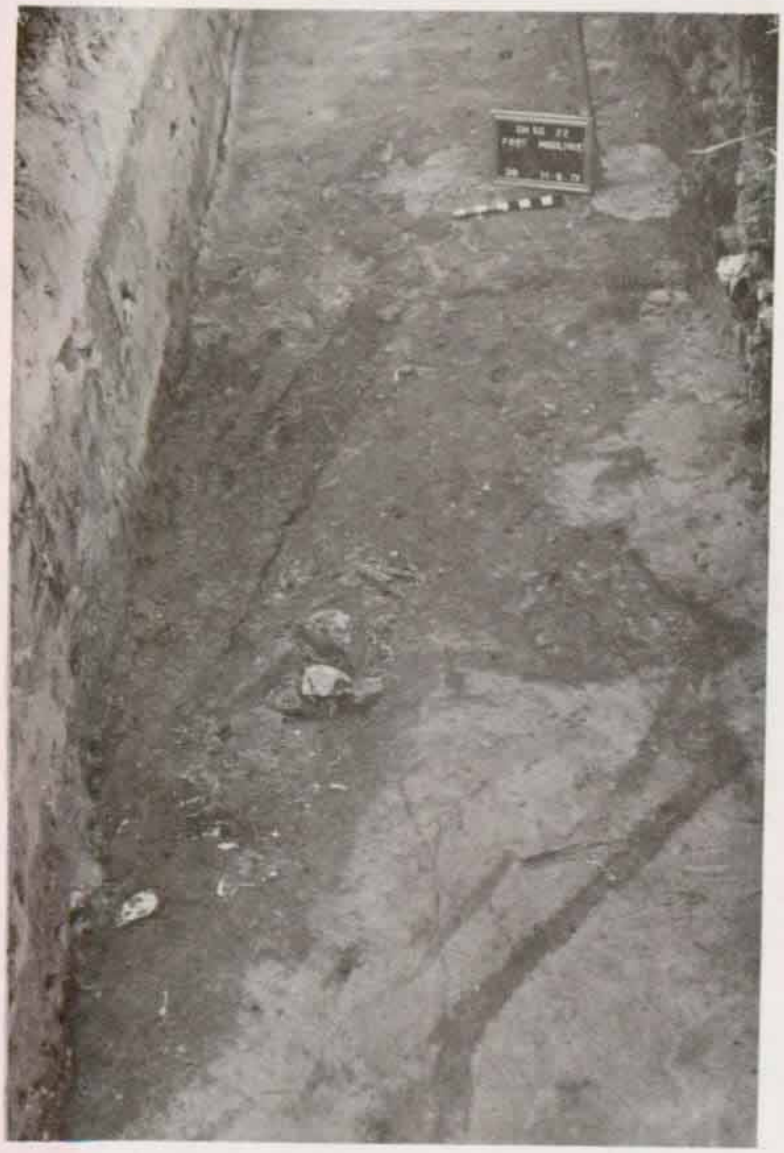


Figure 37

Figure 38

By aligning the curtain wall parapet position parallel with the ditch, we have the alignment of the first fort on the site (Fig. 1). The fact that the ditch turned toward the north beneath Middle Street, indicates that the northwest bastion of the first fort was taking shape at this point, as illustrated in Figures 1 and 2.

In interpretively positioning the angle of the northwest bastion, there is a slight variation possible depending on how far away from Feature 75 one places the edge of the bastion parapet angle. However, the ditch of Feature 82, which is intruded on by Feature 75, is perfectly parallel with the reentered angle of the bastion when we have an angle of 110° between the curtain wall and the bastion. This architectural parallelism provides support for the contemporaniety of the ditch of Feature 82 and that of the 1776 fort. Feature 82 is clearly earlier than Feature 75 by the fact of the intrusion of the fort ditch, and artifacts from both features support this. An interesting documentary parallel with this archeologically positioned fort as shown in Figure 1, is the fact that the 110° angle at the curtain-bastion junction at the northwest bastion, and the 97° angle at the curtain-bastion junction at the northeast bastion, are the same exact angles shown on the Gray(?) Map of the fort drawn under the supervision of officers stationed at the fort (Fig. 2 and Drayton 1821:I,x).

The Palmetto Palisade Around "The Camp" of 1776 (Provenience Nos. 71,72,82,86,88)

In the area north of Middle Street exploratory trenching was carried out to attempt to locate the first fort ditch in this area. The only place where it was seen was in Trench 74, where Ditch 75 intruded on an earlier ditch, Feature 82. This earlier ditch forms an area about 70 feet square, and is architecturally related to the

Figure 39

A - Artifacts reflecting the one-hole bone button disc "industry" at the First Fort Moultrie.

B - The "PRINCE W" sleeve-link (52F-3) from the American midden deposit

Figure 40

A fragment of palmetto log (38CH50-27) from the British context of Feature 27. These fragments were the consistency of sponge cake, and had to be preserved in the field to prevent total destruction from exposure to the effects of oxygen and drying.

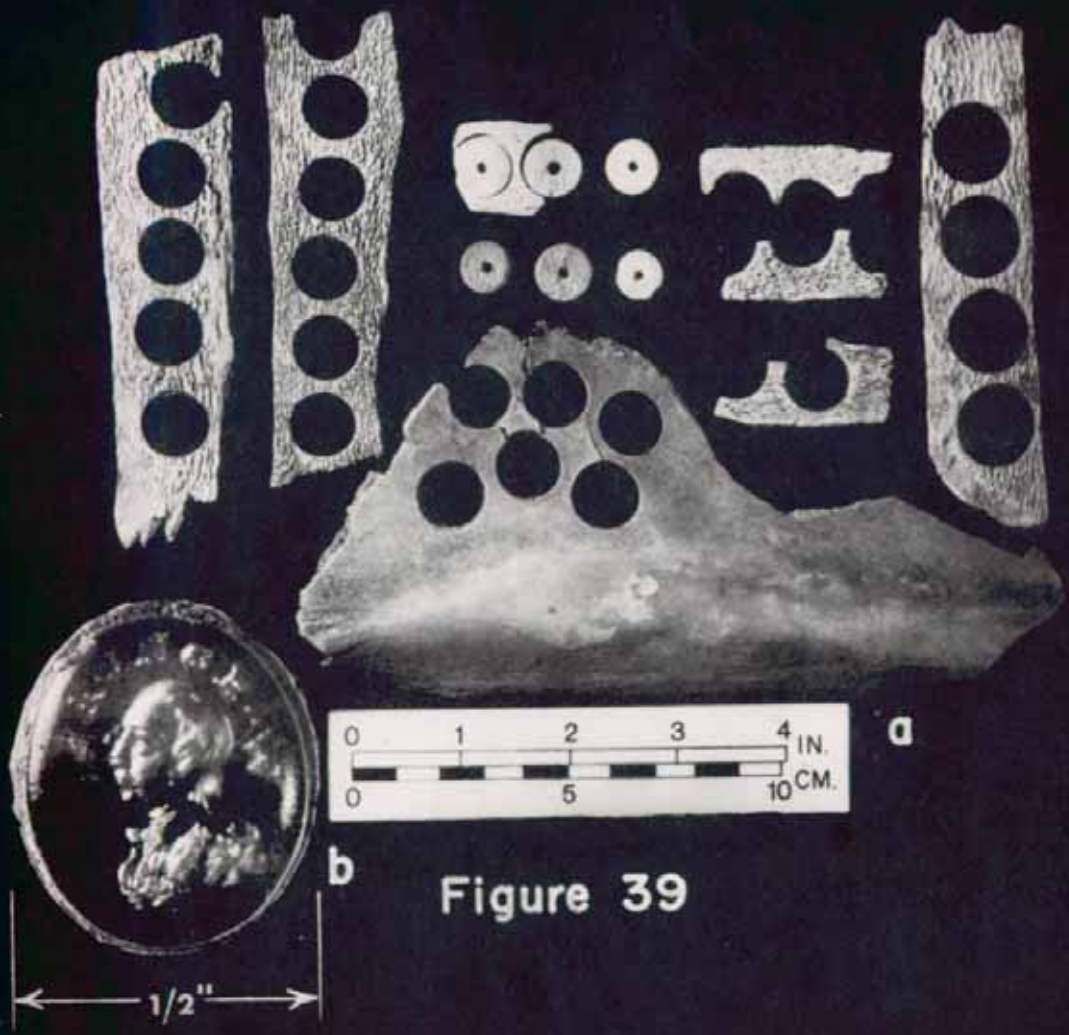


Figure 39

Figure 40

first fort in that it parallels the reentered angle of the northwest bastion (Fig. 2). In area 86 the ditch contained split palmetto logs set upright in the ditch to form a palisade (Figs. 42 and 44). In area 71 a dark impression in the ditch fill (Fig. 41) aligns with the palmetto palisade in area 86. This is interpreted as the ditch from which the palmetto logs had been removed, leaving the dark humus fill where they had been. Palmetto log fragments characterized the fill of this ditch wherever it was examined, and in area 72 and 88 the ditch was literally filled with a heavy concentration of wood chips from pine and palmetto trees (Fig. 43). This wood chip fill is seen as part of the fill placed around the palmetto palisades when they were first placed in the ditch, indicating that quite a bit of chipping was being done in the area, such as would have been the case in notching logs for the construction of the 1776 Fort Moultrie (Fig. 43).

The artifacts in the ditch were white salt-glazed stoneware and creamware, ceramic types of the 1770's (South 1972). The most important evidence for chronological placement of this feature, however, is the fact that it is intruded on by Feature 75, which is the ditch for the 1776 Fort Moultrie, thus placing this split palmetto palisaded area earlier than the ditch for the 1776 fort (Fig. 1).

The primary candidate for interpretation of such a feature, as revealed by the documents, is the encampment used by William Moultrie and his men of the Second South Carolina Infantry Regiment when they first went to Sullivan's Island during the construction of Fort Moultrie in 1776. At that time they lived in huts and booths covered with palmetto leaves, which were located to the north of the fort in an area known as "The Camp" (Drayton 1821:II,282). Features 82, 86, 71, 72, and

FIGURE 41

Feature 71 (left center), intruded on by Feature 79 (lower right), in the north end of Trench 62. Feature 71 contained eighteenth century ceramics, and palmetto log fragments, and is thought to be a continuation of the split-palmetto log palisade seen as Feature 86 (Figure 2). The darker ditch to the right (Feature 79), contained ceramics and cut nails dating from the early years of the nineteenth century, and clearly intruded onto the earlier ditch.

FIGURE 42

Split palmetto log palisade and board paralleling it (Feature 86) in Trench 78. This same ditch in area 71, 80, and 82, revealed ceramics of the eighteenth century, no pearlware being present, and therefore is thought to date from 1770's. It is interpreted as a feature associated with "The Camp" of William Moultrie and his men north of Fort Moultrie in 1776 (Figure 2).

FIGURE 43

The wood chip filled ditch (Feature 88), crossing Trench 78, near the south end. This feature is apparently the same ditch as Feature 72, and may be the same ditch as that represented by Feature 86, though it could well be a separate feature (Figure 2).

FIGURE 44

Ken Culpeper at Feature 86, the split-palmetto log palisade in Trench 78, showing the depth of the trenches in this area of Fort Moultrie site.

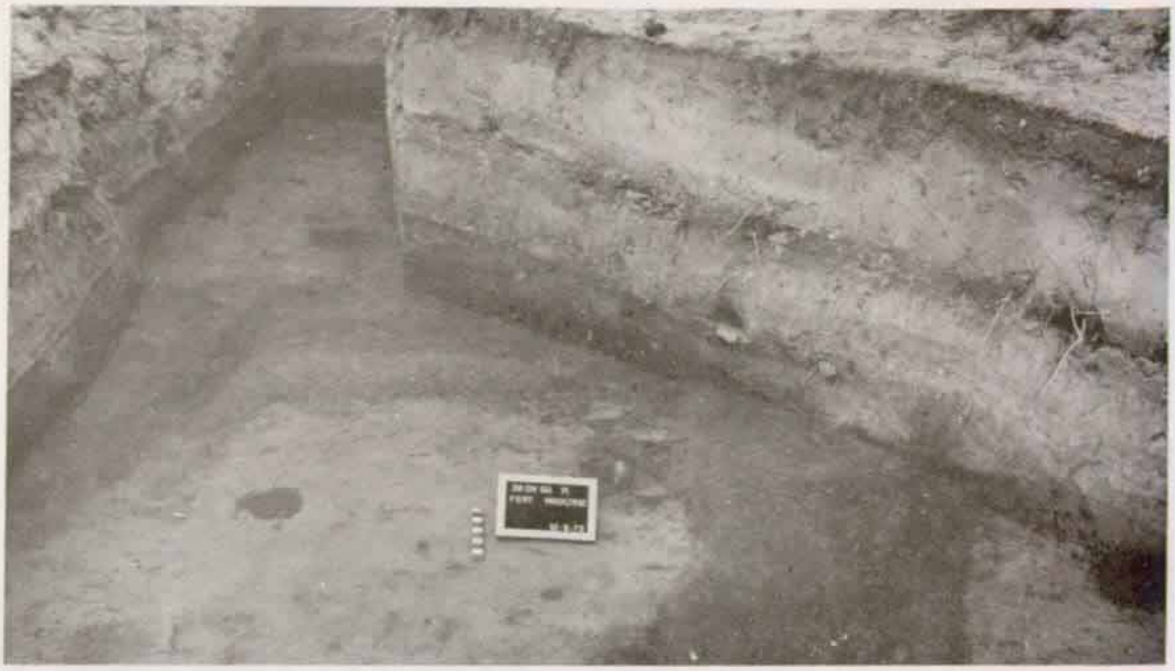


Figure 41

Figure 42

Figure 43

Figure 44

88, therefore, are interpreted as part of a palisaded area around this encampment.

The alignment of this compound with the reentered angle of the 1776 fort resulted in this area north of Middle Street being so aligned throughout the history of the site. When the survey of the site was made in 1796 for establishing the property lines of the Federal Government, this alignment was used, no doubt in conformity with architectural features still visible on the site at that time (Purcell Map, Bearss 1968a:48). This alignment is still seen in the angle of the present curbs and roads of Middle Street.

An alternative possibility for interpreting this palisaded enclosure is as a compound for containing livestock to be used by William Moultrie and his men. This interpretation is prompted by the fact that when the British took Fort Moultrie in 1780, they also captured "forty head black cattle, sixty sheep, twenty goats, forty fat hogs", which had to be contained in some sort of enclosure (Allaire May 7, 1780; Drayton 1881; Arno Press 1968:16).

The discovery of these Revolutionary War Period features in this area clearly demonstrates potential value of this area for archeological investigation to reveal more data relating to the First Fort Moultrie. This is particularly advantageous in that the site is now a vacant field unencumbered by recent construction. Only a small part of the field was examined in this exploratory expedition, and it is expected that a more extensive project would reveal more evidence for William Moultrie's encampment of 1776.

Feature 65 (Fig. 2), is an area filled with eighteenth century debris, oyster shells and other midden from the occupation of the 1770's.

It is typical of the features associated with the palmetto palisade ditch that can be expected to be revealed when a Phase 3 archeological project is undertaken on this important area of the site.

The Architectural Alignment of the Brick Footing and the Flagpole Base (Provenience Nos. 10,26)

This backhoe cut trench was excavated by the Superintendent of the Fort Moultrie Site, Bill Harris, under the direction of the Historical Architect for the National Park Service, John Garner, in an effort to determine the depth of the Third Fort Moultrie. The trench was dug against the curtain wall of the Third Fort Moultrie near the junction with the reentered angle of the northeast bastion. This trench revealed two features. One a concrete foundation, probably for the generator building shown in a photograph of ca. 1915 (Bearss 1968b). Beneath this was a brick footing 1.6 by 2.5 feet oriented at a diagonal angle to the Third Fort wall (Fig. 2). When the position of the First Fort Moultrie was established it was found that this brick footing was in perfect alignment with the First Fort Moultrie, but located twenty feet to the north of the face of the 1776 parapet of the first fort. This footing may be from one of the buildings said to have been outside the fort in 1777 (Bearss 1968c:35-36; Pinckney 1777;1906:131). The fact that the alignment is the same as that for the first fort parapet as positioned on the basis of other data, supports not only the association of this footing with the first fort, but the positioning of the first fort on the site.

Another feature aligning with the positioning of the first fort on the site has been interpreted as a flagpole base (Feature 26). This feature was located on the south side of Trench 17 and 18 at the junction of the two provenience areas. It was in the eighteenth century midden

layer at the bottom of the trench, and was a one foot square hole with whole and partial bricks placed around a wooden post. The bricks were stacked two deep at least and for this reason it was referred to in the field as the "flagpole" hole. Such firm chocking with bricks in such a regular manner around a post seemed far more than ordinarily is found with fence posts, for instance, and resulted in the field interpretation as a flagpole base.

When archeological data positioned the interpreted parapet, and the gate was positioned on the basis of historical maps, with supporting data from archeology, this "flagpole" base was found to be located in a position quite appropriate to the gate of the first fort. This feature is seen to be just south of the entrance blind wall and centrally located in relation to the fort gate. With this in mind, the feature may well represent the base of a regimental banner pole or flagpole. Its alignment is parallel to the position of the parapet of the first fort, which, therefore places it architecturally in association with the first fort (Fig. 2).

The Entrance-Blind Ditch (Provenience Nos. 47,23)

In Trenches 17 and 18 a ditch containing a rotten timber was found. The timber was only a stain of granular humus, but appeared to have the same granular appearance seen on the palmetto logs recovered from the fort ditch. The position of this ditch in relation to the entrance-gate of the fort had resulted in it being interpreted as a entrance-blind ditch into which a timber or mantelet (Uhlendorf 1938:39,41), was placed to provide protective cover for the entrance, something like a ravelin or demi-lune (Muller 1746;1968:217). This ditch parallels the north side of ditch Feature 68 (Fig. 2), indicating an architectural relationship, and possibly a ditch around the ravelin. The details of

the artifact associations in relation to this ditch are discussed in the later archeological section of this report.

An interesting historical parallel is seen in the Second Fort Moultrie map of ca. 1803, where blinds were erected in the fort ditch to provide cover within the ditch (Fig. 1, this report, and Bearss 1968a:Plate IV).

A more contemporary reference, comes from General Charles Lee, who, in giving orders respecting the First Fort Moultrie, on June 24, 1776, said that in addition to making the fort ditch deeper and wider, a screen was to be thrown up behind the entrance (Lee 1792:384). If Lee was speaking as though from inside the fort, his reference to a "screen" behind the entrance might well be represented by what we have called the "entrance-blind wall" (Figs. 1 & 2).

The architectural data relating to the First Fort Moultrie found in the area outside the gate of the first fort, allows the position of the first fort to be positioned on the site (Fig. 1). A summary of the alignment data is presented here, and on Figure 2.

Summary of the Architectural Alignment Data for the First Fort Moultrie

The following 10 points of architectural alignment relative to the First Fort Moultrie are from the area north of the third fort. Some of the points relate to the artifact and midden distributions in the area north of the third fort, and these data are discussed in the following archeology section.

1. The historically documented 16' thick palmetto parapet in relation to the archeologically revealed alignment and angles of the entrance-protecting moat.
2. The architectural alignment of the three forts, reflecting shared military orientation to the site and the river channel.
3. The ditch alignment of the American "Camp" of 1776 parallel with the reentered angle of the northwest bastion.

4. The concentration of American Second Regiment midden of the 1770's, suggesting an entrance gate area.
5. The British midden in the moat in the same area.
6. The position of the gate on the Gray(?) Map in relation to the concentration of discarded midden of the 1770's and 1780's.
7. The alignment of a brick footing (Number 10).
8. The alignment of the flagpole hole.
9. The positioning of the parapet beyond the areas of heavy midden concentration.
10. The concentration of midden to the north of the entrance-blind ditch.

ARCHEOLOGICAL DATA:
THE EIGHTEENTH CENTURY AMERICAN MIDDEN NORTH OF THE ENTRANCE-BLIND WALL

Artifact Distribution Analysis (Provenience Nos. 17E,F, 18E,F, 32E, 33E,F, 48E, 52F-67E)

This midden deposit dating from the Revolutionary War occupation of the site was located in the trenches cut in the area just north of the first fort entrance gate (Fig. 2). The deposit was located at a depth of 2 1/2 to 3 feet and consisted of oyster shell, clam shell, conch shell, mussel shell, garbage bone, brick bats, and artifacts of the eighteenth century (Figs. 8,9,34). With the exception of the stratigraphic control trench the overlying layers of sand and rubble from the nineteenth century were removed by using a backhoe. After this was done the last remaining fragment of nineteenth century sand was removed by hand labor to expose the bed of oyster shell midden beneath.

This distribution of the midden is of considerable importance in that it provides information regarding the functional and architectural use of the area. In order to understand the significance of this distribution the reader should have continuous reference to Figure 2 where the distribution is visually shown. In Trench 17-22 the midden deposit extended no farther east than the junction of Trench 17 with 22 (Figs. 2 & 9), indicating that it was deposited from the west of that point.

In Trench 18 the midden began to quickly decrease toward the west of the cannonball in Trench 52 (Figs. 11 and 35). In Trench 48 it decreased west of the intrusive palisade of Feature 57 (Fig. 2), and in Trench 30 it decreased and virtually disappeared to the east of the junction of Trench 33 and 34 (See Figure 2 for delineation of this area). This concentration was dramatically focused north of the entrance-blind ditch, Feature 47 and 23. The eighteenth century midden deposit was concentrated over these two features, and was virtually nonexistant on the south side of the trench, clearly indicating a direct association between the midden and these ditches. As Layer E and F were removed from the trench above Features 23 and 47, it became apparent that the midden had settled into the ditch as the timber in the ditch had rotted. The fact that the midden was so heavy above this ditch and so thin to the south, points to a major above-ground structure or wall in the ditch over which, or against which, midden was thrown on the north side only. A timber wall such as a mantelet might have been such a structure. This ditch and associated rotten timber has been interpreted as an entrance-blind wall or screen, over which quantities of trash and garbage were thrown, producing the midden deposit seen along the berm between the parapet and the moat in the area of the fort entrance, a logical place to expect trash to have been discarded (Fig. 2).

Midden distribution not only allowed suggestions to be made as to the location of the entrance to the first fort on the basis of the high concentration of midden, but provided supporting evidence for the positioning of the fort parapet in relation to the moat. It is apparent that midden could not be discarded in an area covered by a sand filled palmetto log parapet. To the east of the midden thrown from the fort

entrance, in Trench 46, the midden was thinner, and within the trench it thinned toward the southwest, virtually disappearing before it reached the edge of the third fort moat (Fig. 2). This thinning correlates well with the architectural placement of the palmetto log parapet as determined from other data, giving some additional support for the correctness of that placement.

In Trench 74, the artifact distribution is again supportive of the architectural placement of the parapet. This trench, located north of Middle Street, had no artifacts in the west end of the trench, but had numerous artifacts associated with Feature 75 in the east end. When the placement of the northwest bastion of the First Fort Moultrie was achieved, this absence of artifacts is seen to be explained through the fact that the palmetto log parapet was positioned over the western end of Trench 74, and thus prevented the deposition of any artifacts at that location (Fig. 2). In all areas where artifact distribution was seen to vary dramatically within a trench, as seen in the midden deposit layers, this difference correlates with the architectural placement of the parapet of the First Fort Moultrie, adding support to the validity of the placement. The broad contrast in artifact distribution, however, is seen in the fact that virtually no eighteenth century artifacts were found deposited east of the entrance walk to the Third Fort Moultrie, a situation to be expected since the area is somewhat removed from the immediate vicinity of the entrance to the first fort, outside of which it was most convenient to discard trash and garbage.

FIGURE 45

The outline of the 1860's abatis or "Picket Fence" (Feature 38), in Trench 17. Note the oyster shells in the fill of the ditch, resulting from the intrusive ditch cutting through the eighteenth century American midden deposit lying on the berm of the First Fort Moultrie. (See Figure 46).

FIGURE 46

The 1860's abatis or "Picket Fence" after excavation as Feature 38, in Trench 17, showing the pine abatis posts leaning away from the Third Fort Moultrie. This intrusive palisade cut through almost all of the American midden deposits on the berm of the First Fort Moultrie (Figure 2).

FIGURE 47

Stave-barrel well (Feature 59), in Trench 44, emerging from the "F" layer, associated with the First Fort Moultrie. The "E" layer, separated from the well layer by a layer of yellow sand, revealed a mean ceramic date of 1797.4, indicating an association with the Second Fort Moultrie for this layer. The first fort moat was not seen to cross this trench, but the 1860's period abatis did.

FIGURE 48

Rubble filled ditch of Feature 41 and in Trench 35. This feature is associated with the Third Fort Moultrie, being at a 90° angle to the face of the salient angle of the northwest bastion. The dark area in the east end of the trench is the edge of a wood chip filled humus layer, apparently the edge of a low marshy area.

FIGURE 49

The palmetto log deadman, intrusive ditch, and abatis posts for the "Picket Fence" of the 1860's (Feature 50) in Trench 46. The intrusive nature of Feature 50 into the American midden lying on the First Fort Moultrie berm was clearly seen in this trench (Figure 2).

Figure 45

Figure 46

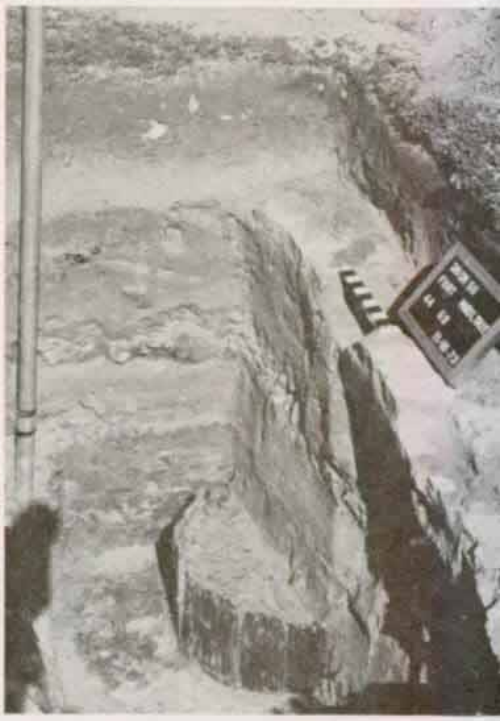


Figure 47

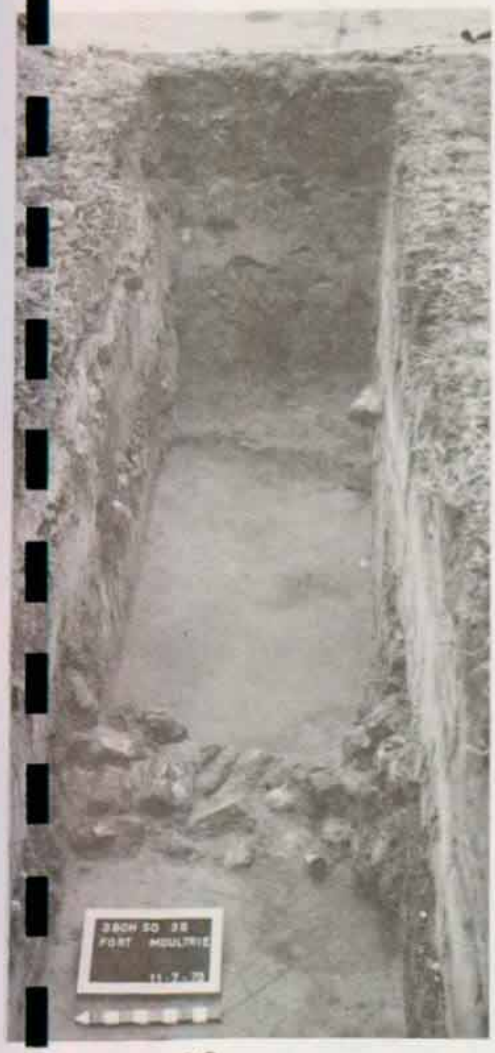


Figure 48

Figure 49

Intrusion Problems

An attempt was made to isolate the midden deposit layers wherever they were seen so as to preserve the contextual association of the archeological deposit free from contamination by artifacts from layers of a later time period (Figs. 11,13,34). Although a backhoe was used to remove the upper layer, hand labor was carefully used to remove the midden deposits lying on the bottom of the trenches. However, intrusive contamination from later abatis ditches contaminated virtually every one of the midden deposits to some extent. Trenches 46,17,32, and 48 were each contaminated by the pine abatis or "picket fence" constructed by Federal troops in 1860 (Scott 1880:181; Figures 45,46,47, this report), and Trench 18 was intruded by Feature 21 (Figs. 21,22), the 1833 palisade.

The contaminating, intrusive ditch of Feature 38 was not easily seen as it crossed the midden deposits due to the fact that it was filled with the same oyster shell midden taken from the midden deposit when the ditch was dug (See Fig. 45 for the abatis ditch containing oyster shell from the removed midden deposit). It was only after the midden deposit was removed that it was seen that there was an intrusive abatis ditch involved.

Intrusive objects in midden deposit 17E that probably resulted from this intrusive abatis ditch are tile fragments, a tin can, glass (19th century), cut nails, a fishline and sinker, and a percussion cap. In several trenches the midden deposit was arbitrarily split into an upper (E) and a lower half (F) in order to hopefully preserve the integrity of the lower half, since the upper half was in contact with later cultural layers above (Fig. 8). However, these "E" and "F" layers were later combined for analysis purposes since the intrusive

ditches equally contaminated the layers. Layer 17F, for instance, contained a friction primer from a nineteenth century artillery piece, an artifact totally out of place in the context of the remaining cultural material from the 17F layer (Peterson 1969:116). Layer 18E contained transfer printed pearlware (South 1972:85), and a button from the nineteenth century (Johnson 1948:I,48,Button Number 189) and 32E had whiteware and a nineteenth century type 4-hole bone button (South 1964:121;1972:85). Layer 48E was contaminated by the presence of a piece of blue glass, with all midden layers except 48E and 52F containing cut nails. These then, are the contaminants involved in the analysis of the midden deposit layers thrown from the First Fort Moultrie over the entrance-blind wall.

The possibilities for further ceramic contamination are considered in the section on the ceramic analysis from the midden deposit. It is clear, however, that nineteenth century contamination of this midden layer is seen in virtually all areas where the deposit was removed, with the result that the question of whether or not pearlware occurs on sites prior to 1782, cannot be answered by reference to this midden deposit. This does not eliminate the value of the layer for analysis purposes along lines other than the question of pearlware's first occurrence on archeological sites in America. Contamination and intrusion are constant problems facing the archeologist concerned with answering basic questions hinging on tight provenience control. Outlining the possibilities and realities of contamination are prime responsibilities of the archeologist in any analysis situation relating directly to his analysis and his conclusions.

Synthesis of Metal Button Data and the American Occupation Data from the Eighteenth Century Midden (Provenience Nos. 17E,17F,18E,18F,33E,33F,32E, 48E,67E,52F)

Buttons from military sites often provide direct historical data in the form of regimental numbers stamped on the face to identify the regiment. Civilian buttons, on the other hand, are not nearly so productive of direct historical data, particularly in the eighteenth century when there are seldom identifying marks on the backs to identify the maker (and thereby the time period of manufacture) as is the case in the nineteenth century. Civilian buttons then do not lend themselves as a rule to analysis that allows for conclusions as to *who used them* before they were discarded, whereas military buttons with regimental unit numbers do produce this type information. Civilian buttons sometimes lend themselves to *chronological* analysis through archeological context (South 1964:113), but military buttons, through the *direct historical data* they provide in identifying the user, produce chronological data through the documented history of that regiment (assuming the users of the buttons were present on the site). Buttons then, form a most important class of artifacts for analysis by the archeologist, producing as they do, information as to the identity of the military unit once using the buttons, as well as chronology. The Fort Moultrie buttons from the eighteenth century midden deposit include civilian buttons and military buttons, that, together, provide the rare instance where the *identity* of the wearers of the civilian buttons can be interpreted. This information suggests the identity of the military group that produced the midden deposit thrown from the fort entrance over the entrance-blind wall, onto the berm to the west of the fort moat (Fig. 2).

There were 106 buttons recovered from the midden deposit layers, but 59 of these were one-hole bone buttons made on the site, as revealed by the fact that there were 244 bone button blanks recovered from the deposit (See Fig. 39). It is only the 47 remaining buttons we are concerned with in this analysis, the one-hole bone button "industry" on the site being discussed in a later section.

Of the 47 buttons other than the one-hole variety, one was a four-hole button typical of the nineteenth century, not demonstrated to have a valid association with a Revolutionary War Period context (South 1964:121,Type 20). This button, (from 32E) therefore, is seen as an intrusive button into the midden deposit. The fact that it is the only one present tends to support this interpretation. A second button is also intrusive into the deposit, and was found in Layer 18E. This was a United States Infantry button of stamped brass, with an eagle device, dating from the period of 1814 to 1821, totally out of time with the remaining artifacts in the midden deposit (South 1964:123,Type 28; Johnson 1948:48,Button 189). These buttons probably made their way into the midden deposit through the intrusive abatis of 1860, and intrusive palisade of 1833 (Figs. 2,21,22,45,46,49).

Of the 45 buttons remaining, 36 (80%) were various types of civilian buttons of known eighteenth century types (South 1964; see Fig. 50, this report). The remaining 9 buttons are of particular interest in that 8 of them (18%) are cast pewter buttons with a "2" in relief on the face (South Type 11;1964:118; Albert 1972:Supplement:9;Fig. 1, this report). This type button was likely used by William Moultrie's Second South Carolina Infantry Regiment that defended Fort Moultrie against an attack by the British fleet on June 28, 1776 (Bearss 1968a: 3,7,13). The regiment was at Fort Moultrie from March 2, 1776, to

Analysis of Buttons from the First Fort Moultrie

(38CH50)

The British Midden Deposit

Provenience Catalog No.	Type No.	Size MM.	Material	Description	British	Loyalists	Continental	Civilian	Name	Chronology	Reference and Page Number
CH50-56-1	8	24	White metal	Cast, wire eye		"RP" and Crown			Royal Provincials	May 1780-1782	(C & B 124-128), (Bearss 1968c: 135)
CH50-56-2	8	16	White metal	Cast, wire eye		"RP" and Crown			Royal Provincials	May 1780-1782	(C & B 124-128), (Bearss 1968c: 135)
CH50-56-3	8	17	Silver	Cast, wire eye	19 in wreath				19th Regt. of Foot?	June 3, 1781-Dec. 14, 1782	(D 56), (L 171)
CH50-56-4	8	17	White metal	Cast, wire eye	30 in band				30th Regt. of Foot	June 3, 1781-Dec. 14, 1782	(D 56), (L 172)
CH50-56-5	8	24	Silver	Cast, wire eye	37 in wreath				37th Regt. of Foot	May 1780-1783	(C & B 112, pl. 13, 118, pl. 17), (D 56), (Bearss 1968c: 135)
CH50-56-6	8	24	Silver	Cast, wire eye	62 in circle				62nd Regt. of Foot	Post-1777	(C & B 119), (D57)
CH50-56-7	8	23	White metal	Cast, wire eye	63 in 8 pt. star				63rd Regt. of Foot	May 1780-1782	(C & B 119), (D 57, 63), (Bearss 1968c: 135)
CH50-56-8	8	17	White metal	Cast, wire eye	63 in 8 pt. star				63rd Regt. of Foot	May 1780-1782	(C & B 119), (D 57, 63), (Bearss 1968c: 135)
CH50-56-9	11	15	White metal	Cast, one piece			2 in relief		2nd S.C. Regt. of Moultrie	March 2, 1776-Dec. 1777	(AA15, Supplement p. 9), (Bearss 1968a: 3, 13; 1968c: 135)
CH50-56-10	31	13x15	Copper	Cast, sleeve link				Floral device		18-19th Century	(South 129-30)
CH50-56-11	3	21	Gold plated copper face					Plain face		18th Century	(South 115)
CH50-37-1	8	17	White metal	Cast, wire eye	23 under 3 plumes				23rd Royal Welsh Fusileers	? to 1782	(D 56-7, 63)
CH50-37-17	8	17	White metal	Cast, wire eye	23 under 3 plumes				23rd Royal Welsh Fusileers	? to 1782	(D 56-7, 63)
CH50-37-2	8	18	White metal	Cast, wire eye	63 in 8 pt. star				63rd Regt. of Foot	May, 1780-1782	(D 57, 63) (Bearss 1968c: 135)
CH50-37-3	11	13	White metal	Cast, one piece				Plain face			(South 118)
CH50-37-4	3	24	Silverplated face, two piece					Plain face			(South 115)
CH50-68-1	8	17	White metal	Cast, wire eye	23 under 3 plumes				23rd Royal Welsh Fusileers	? to 1782	(D 56)
CH50-68-2	8	18	White metal	Cast, wire eye	63 in 8 pt. star				63rd Regt. of Foot	May, 1780-1782	(C & B 118), (D 57) (Bearss 1968c: 135)
CH50-68-3	8	24	White metal	Cast, wire eye	37 in wreath				37th Regt. of Foot	May, 1780-1783	(C & B 112, 119), (D 56) (Bearss 1968c: 135)
CH50-68-4	8	24	White metal	Cast, wire eye	37 in wreath				37th Regt. of Foot	May 1780-1783	(C & B 112, 119), (D 56) (Bearss 1968c: 135)
CH50-68-32	11	17	White metal	Cast, one piece			2 in relief		2nd S.C. Regt. of Moultrie	March 2, 1776-Dec. 1777	(AA15, Supplement 9), (Bearss 1968a: 3, 13; 1968c: 135)
TOTALS		**21**			**13**	**2**	**2 = 9.5 %**	**4 = 19 %**		**Terminus post quem = 1781**	

71.5 % = BRITISH

The American Midden Deposit

CH50-17E-1	7	28	White brass	spun back, wire eye				Plain		18th Century	(South 117)
CH50-17E-2	7	27	White brass	spun back, wire eye				Plain		18th Century	(South 117)
CH50-17E-3	3	16	Bone	4 hole back				Back only		18th Century	(South 115-116)
CH50-17E-4	3	16	Gilt face	bone back				gilt face		18th Century	(South 115-116)
CH50-17E-5	7	17	White brass	iron wire eye				Plain		18th Century	(South 117)
CH50-17E-6	11	17	White metal	cast, one piece			2 in relief		2nd S.C. Regt. of Moultrie	March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-17E-7	11	17	White metal	cast, one piece				Plain		18th Century	(South 118)
CH50-17E-8	11	15	White metal	cast, one piece				Plain		18th Century	(South 118)
CH50-17F-1	7	24	White brass	spun back, wire eye				Plain		18th Century	(South 117)
CH50-17F-2	3	24	Bone	4 hole back				Back only		18th Century	(South 115-116)
CH50-17F-3	3	15	Bone	4 hole back				Back only		18th Century	(South 115-116)
CH50-17F-4	11	16	White metal	cast, one piece			2 in relief		2nd S.C. Regt. of Moultrie	March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-18E-1	28	20	Stamped brass	convex face Eagle				Plain	U.S. Infantry	1814-1821*	(J,I, 189:48; II, Button No. 189)
CH50-18E-2	9	14	Stamped brass	flat face			2 in relief		2nd S.C. Regt. of Moultrie	18th Century	(South 118)
CH50-18E-3	11	17	White metal	cast, one piece				Plain		March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-18E-4	11	-	White metal	cast, one piece						18th Century	(South 118)
CH50-18F-1	7	28	White brass	iron wire eye				Plain		18th Century	(South 117)
CH50-18F-2	3	22	Bone	4 hole back				Back only		18th Century	(South 115-116)
CH50-32E-1	31	18	White brass	cast, one piece				Plain		18th-19th Century	(South 124)
CH50-32E-2	11	24	White metal	cast, one piece				Plain		18th Century	(South 118)
CH50-32E-3	11	16	White metal	cast, one piece			2 in relief		2nd S.C. Regt.	March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-32E-4	11	13	White metal	cast, one piece				Plain		18th Century	(South 118)
CH50-32E-5	3	16	Bone	4 hole back				Back only		18th Century	(South 115)
CH50-32E-6	3	15	Gilt copper	face only				face only		18th Century	(South 115)
CH50-32E-7	20	11	Bone	button				Bone button		19th Century*	(South 121)
CH50-33E-20	7	-	White brass	cut quarter "bit"				Cut fragment		18th Century	(South 117)
CH50-33E-21	3	17	Bone	4 hole back				1/2 back		18th Century	(South 115-116)
CH50-33E-22	11	-	White metal	sleeve link w/link				Tudor Rose Motif		18th Century	(South 118 & 129)
CH50-33E-23	11	13	White metal	cast, one piece				Plain		18th Century	(South 118)
CH50-33E-27	7	16	Brass	cast, wire eye				Plain		18th Century	(South 117)
CH50-33F-1	3	-	Copper face	face only				Plain		18th Century	(South 115-116)
CH50-48E-1	11	17	White metal	(Excellent condition)			2 in relief		2nd S.C. Regt. of Moultrie	March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-48E-2	11	16	White metal	(Excellent condition)			2 in relief			March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-48E-3	11	25	White metal	(Excellent condition)				Plain		18th Century	(South 118)
CH50-48E-4	7	17	Brass	broken				Plain		18th Century	(South 117)
CH50-52F-1	11	16	White metal	good example			2 in relief		2nd S.C. Regt. of Moultrie	March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-52F-2	11	17	White metal	broken			2 in relief			March 2, 1776-Dec. 1777	(AA15, Supplement p.9), (Bearss 1968a:3,13;1968c:135)
CH50-52F-3	35	12.5x14.5	Brass	glass faced, gilt	Bust & "PRINCE W"					1776-1780's?	(South 125), (Bearss 1968a:3,13)
CH50-52F-4	7	16	White Brass					Plain		18th Century	(South 117)
CH50-52F-5	7	18	White Brass					Plain		18th Century	(South 117)
CH50-52F-6	3	17	Bone	back, 4 hole				Back only		18th Century	(South 115-116)
CH50-52F-7	3	16	Bone	back, 4 hole				Back only		18th Century	(South 115-116)
CH50-52F-8	35	12x15	Brass	white paste set				Damaged		18th Century	(South 125)
CH50-52F-9	7	-	White brass	fragment				Plain		18th Century	(South 117)
CH50-52F-10	3	17	Gilt copper	face				Plain		18th Century	(South 115-116)
CH50-67E-1	6	15	Brass	back only				Back only		18th Century	(South 116)
CH50-67E-2	11	13	White metal	cast, one piece				Plain		18th Century	(South 118)
TOTALS		**45 (minus 2 intrusive)**			**0**	**1 = 2 %**	**8 = 18 %**	**36 = 80 %**		**Terminus post quem = 1776**	

98.0 % = AMERICAN

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* Intrusive button

Figure 50

C & B = Calver, William Louis, and Reginald Pelham Bolton
1970 History Written with Pick and Shovel.

D = Darling, Anthony D.
1970 Red Coat and Brown Bess.

AA = Albert, Alphaeus H.
1975 Record of American Uniform and Historical Buttons, with Supplement.

J = Johnson, David F.
1948 Uniform Buttons American Armed Forces 1784-1948.

L = Lefferts, Charles
1971 Uniforms of the American, British, French, and German Armies in the War of the American Revolution, 1775-1783.

Bearss = Bearss, Edwin C.
1968a The First Two Fort Moultries, A Structural History.
1968c The Battle of Sullivan's Island and the Capture of Fort Moultrie.

South = South, Stanley
1964 Analysis of the Buttons from Brunswick Town and Fort Fisher. The Florida Anthropologist, Vol. XVII, No. 2.

December 1777, when it was replaced by Colonel Pinckney's First South Carolina Infantry Regiment (Bearss 1968a:3,7,13-14), with detachments of the Second South Carolina Infantry being there again in 1779 (Moultrie 1802:I,376), under Colonel Francis Marion (Moultrie 1802:I, 448). It is apparent, then, that the midden deposit most likely resulted from an occupation by the Second South Carolina Infantry Regiment under William Moultrie, dating between March 1776 and the surrender of the fort to the British on May 7, 1780 (Bearss 1968a:3,13; 1968c:135).

The final button in the collection of 45 from the deposit is an oval sleeve-link from Layer 52F (Fig. 11). This sleeve-link has a glass face, beneath which is a gilt bust of a man, over which is printed "PRINCE W." against a red background (Fig. 39). This is the only clue from the entire midden deposit of a British connection, and may be a sleeve-link from an officer in a British Regiment known as "The Prince of Wales" Regiment (Moultrie 1802:II,219). It could also be merely a souvenir from some admirer of the prince.

In looking over the entire button collection from the midden deposit thrown from the fort over the entrance-blind wall, we see that it is apparently a deposit primarily associated with William Moultrie's Second South Carolina Regiment of Infantry of the "continental establishment" (Moultrie 1802:I,187), dating from their occupation of the site from 1776 to 1780. A single "PRINCE W." sleeve-link is the only clue to a British connection with the deposit. When we look at the percentage relationship between the Second Regiment buttons and the civilian buttons, however, we see that 80% of the buttons are from civilian dress (Fig. 50). These buttons are, no doubt, from the militia units, and the volunteers, and possibly from the large number

of mechanics and Negroes used to construct the fort over a period of several years from 1776 to at least 1778 (Moultrie 1802:I,123-24,171, 376; Gibbes 1853:II,16).

The buttons from the midden deposit are a secondary deposit which was a result of trash and garbage being discarded by the American forces under William Moultrie outside the entrance gate to the fort. It was thrown over an entrance-blind wall onto the berm between the parapet and the moat ditch, in the corner formed by the junction of the north curtain wall of the fort with the northwest bastion. This garbage disposal appears to have taken place between 1776 and 1780.

From a strictly archeological point of view, not taking into consideration the documented history of the fort, we see that the buttons reveal two primary components at the site during the period this midden was deposited. One was a military component represented by buttons marked with a "2" (not likely to have been civilian in origin), and a major occupation of civilian nature. The fact that both shared the same garbage dump suggests that there was a connection between the military and the non-military units, of the type typified by a situation where there are formalized, military leaders, with a following of civilians, perhaps militia.

In the absence of the specific, direct, historical, documentation provided by the "2" buttons, through the history of the Second South Carolina Regiment on the site, we would have no way of dating the midden deposit through buttons alone, other than to the period of the eighteenth century. In that case, we would have to turn to the ceramics and other data to establish a chronology for the deposit. From the buttons, combined with the historical documentation, however, we have

not only been able to establish the identity of the group responsible for discarding the garbage but we have, through knowledge of that group, established a time frame for the accumulation of the midden deposit. The position of the midden deposit in relation to the fort gate and entrance-blind wall is a significant one architecturally, and that significance is discussed elsewhere in this report.

Ceramic Synthesis and Chronology from the Eighteenth Century, American Midden Layers (Provenience Nos. 17E,17F, 18E,18F, 33E,33F, 32E, 48E, 67E, 52F)

On historic sites in America ceramics are among the most useful artifacts recovered for chronological analysis. On British-American sites, British ceramics predominate in the eighteenth century, and well into the nineteenth century they form the major body of the ceramic collection. Recently a formula has been developed for use with eighteenth, and early nineteenth century British ceramics, to arrive at an interpreted occupation period represented by any specific ceramic collection (South 1972:71). This formula provides a *mean ceramic date* that equates well with the *median occupation date* represented by the ceramic collection (South 1972:71). Using this mean ceramic date and the known end date for the occupation, or the known beginning date, an interpreted occupation period represented by the ceramic collection can be determined. If no end or beginning historic date is known, then the date of the latest artifact, the *terminus post quem* for the collection can be used along with the mean ceramic date to arrive at an *interpreted occupation period* represented by the ceramic collection.

The use of the South Formula for arriving at a mean ceramic date involves the use of a median date assigned to each numbered ceramic type (South 1972:85). The number of sherds of each type is multiplied by

the assigned median date for that type (South 1972:85). The total of all sherds is then divided into the total of all the products derived for each type in order to obtain the *mean ceramic date* for the collection. Figure 51 illustrates this process as applied to the ceramic types from the eighteenth century middens from Fort Moultrie.

Certain ceramic types from the Fort Moultrie American midden are not used in the analysis to determine the mean ceramic date. These are Oriental porcelain, thick red lead-glazed earthenware, brown lead-glazed earthenware, thin black and thin red, refined lead-glazed earthenware, and trailed and mottled glazed slipware. Of these types, 84 sherds were Oriental porcelain, and 66 sherds were of the other types mentioned above. Four sherds of whiteware were recovered from Layer 32E, and are apparently from the intrusive 1860 abatis in that trench, since whiteware dates from the 1820's and later (South 1972:85), and is obviously temporally out of context with the remainder of the midden deposit. All other ceramic sherds were used to arrive at the mean ceramic date represented by the collection, and the table in Figure 51 illustrates the types and counts for the entire midden deposit.

The major ceramic type present in the deposit was Colono-Indian pottery (Noël Hume 1962; Stern 1951), being represented by 617 sherds, whereas all other ceramic types used in the analysis constituted only 1057 sherds. The significance of this high percentage of Indian pottery in the midden deposit will be discussed in a separate section of this report. The major ceramic types present are delft, faience, and creamware, the latter being the most predominant. These three types constitute over 74% of all European ceramic types present (Colono-Indian pottery not included), with the remaining percentage divided among the remaining 16 types (Fig. 51).

Synthesis of Ceramic Data from the Am
Fort Moultrie, So
(38CH50)

American Midden Deposit

South Type No.*	(X_i) Median Date*	Type Name	17E	17F	18E	18F	33E	33F	32E	48E	52F	67E	(f_i) Totals	($X_i \cdot f_i$) Product
			Provenience and Sherd Count											
56	1733	Lead Glazed Slipware	8	1	-	1	1	9	-	-	3	2	25	43325
49	1750	Decorated Delftware	63	28	4	23	12	15	8	2	15	3	173	302750
21	1788	Debased Rouen Faience	78	6	2	1	16	18	23	8	26	16	194	346872
43	1758	White Salt-Glazed Stoneware Plates	37	5	1	12	2	1	2	1	1	1	63	110754
44	1738	Westerwald, Stamped Blue Floral Devices, Geometric Designs	34	11	-	4	2	1	5	1	4	4	66	114708
54	1733	British Brown Stoneware	28	4	6	12	3	3	1	1	11	4	73	126509
46	1755	Nottingham Stoneware	-	1	-	-	1	-	-	-	-	-	2	3510
37	1733	Refined Red Stoneware, Unglazed, Sprigged	8	-	-	-	-	-	1	-	2	-	11	19063
31	1770	English Porcelain	-	-	-	-	-	4	1	-	-	1	6	10620
15	1798	Lighter Yellow Creamware	107	16	19	30	28	24	59	29	38	37	387	695826
33	1767	Green Glazed Cream-Bodied Ware	-	-	-	-	-	-	-	1	1	1	3	5301
36	1755	"Clouded" Wares, Tortoiseshell Mottled Glazed Cream-Colored Ware	3	-	-	-	2	-	-	-	4	-	9	15795
14	1798	"Annular Wares" Creamware	5	-	-	-	-	-	-	-	-	-	5	8990
-	1805	Marbled Slip Pearlware	-	1	-	-	-	-	-	-	-	-	1	1805
20	1805	Undecorated Pearlware	13	-	1	-	-	-	1	2	1	-	18	32490
17	1800	Underglaze Blue Hand Printed Pearlware	-	-	1	-	1	-	-	-	-	-	2	3600
11	1818	Transfer-Printed Pearlware	-	-	2	-	-	-		-	-	-	2	3636
12	1805	Underglaze Polychrome Pearlware	-	-	-	1	-	-	1	1	-	-	3	
19	1805	Blue and Green Edged Pearlware	5	-	2	-	-	-	1	1	-	4	13	23465
13	1805	"Annular Wares" Pearlware	-	-	-	-	1	-		-	-	-	1	1805
			389	73	38	84	69	75	103	47	106	73	1057	1876239 ÷ 1057= 1775.1 - 1.1= 1774.0
		Colono-Indian	35	28	43	16	77	131	64	44	114	65	617 = 37% of all ceramics	
		Teaware	106	31	17	36	16	16	34	18	28	12	314	25.8%
		Heavyware	330	18	30	53	69	86	89	42	108	78	903	74.2%
													1217	

Documented Median American Occupation Date = 1778

Mean Ceramic Date

British Mi

South Type No.*	(X_i) Median Date*	Type N
56	1733	Lead Glazed Slip Yellow)
49	1750	Decorated Delft
21	1788	Debased Rouen Fa
43	1758	White Salt-Glaze Plates
44	1738	Westerwald, Star Devices, Geo
54	1733	British Brown St
46	1755	Nottingham Stone
37	1733	Refined Red Sto Sprigged
31	1770	English Porcela
15	1798	Lighter Yellow
33	1767	Green Glazed Cr
36	1755	"Clouded" Wares Mottled Glaz Ware
18	1788	Overglaze Ename Creamware.
	1805	Marbled Slip Pe Slip On Crea
	1798	
17	1800	Underglaze Blue Pearlware
		Colono-Indian
		Teaware
		Heavyware

Figure 51

erican and British Middens at uth Carolina

dden Deposit

Provenience and Sherd Count (f_i)						($X_i \cdot f_i$)
Name	27	37	56	68	75	Total	Product
ware (Combed		-	-	1	-	1	1733
are		3	3	1	-	7	12250
ience	10	14	9	15	22	70	125160
d Stoneware	1	3	3	1	-	8	14064
ped Blue Floral etric Designs	1		2	2	-	5	8690
oneware	3	2	2	2	11	20	34660
ware (Lustered)				-	1	1	1755
eware, Unglazed,		1		1		2	3466
n		1	2	2		5	8850
Creamware	9	30	30	22	7	98	176204
am-Bodied Ware , Tortoiseshell, d Cream-colored			1	1		2	3510
led Hand Painted			6	1		7	12516
rlware (Polychrome ware or Pearlware)		1				1	1805
		2				2	3596
Hand Painted				1		1	1800
	24	57	58	50	41	230	410059 ÷ 230 = 1782.9-1.1= 1781.8
	7	46	46	33	9	141= 38% of all ceramics	
	1	27	35	25	4	92	34.2%
	25	49	26	31	46	177	65.8%
						269	

Documented Median British Occupation Date = 1781

Mean Ceramic Date

*South, Stanley
1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. *The Conference on Historic Site Archaeology Papers 1971*, Vol. 6, Columbia, South Carolina.

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Mean Ceramic Date Formula

The mean ceramic date for the group of Colonial British ceramic types from an historic site taking into consideration the frequency of occurrence of fragments of the types, can be determined by a mean ceramic date-frequency formula as follows:*

$$Y = \frac{\sum_{i=1}^{n} . X_i \cdot f_i}{\sum_{i=1}^{n} f_i} - 1.1$$

Where X_i = the median date for the manufacture of each ceramic type

f_i = the frequency of each ceramic type

n = the number of ceramic types in the sample

Since the two Fort Moultrie dates were obtained they have been used, along with dates from fourteen additional sites for which documented median occupation dates were known, as data input for statistically deriving a least squares multiple linear regression equation, toward arriving at a date most accurately predictive of the median occupation date represented by the ceramic sample. The results indicate the optional equation using the mean ceramic date formula is as follows:

The mean ceramic date formula is used to derive a median occupation date (Z) from the ceramic data. 235.5 years are added to 87% of this date, and this formula adjustment is expressed as : Z=235.5 + .87Y.

CONFIDENCE

An R^2 value of .980 was obtained, indicating that 98.0% of the variance of the median occupation date was explained by this equation. The date resulting from this adjusted equation is the best mathematical prediction of the median occupation date represented by the ceramic sample.

South 6·1974

The high percentage of faience in this deposit is remarkable. It is the highest percentage I know of on any American site outside the French occupied areas. However, this is in conformity with Noël Hume's analysis of the faience from *Rouen not occurring on British American Sites in quantity until after 1775*, with advertisements of the period 1778-84 mentioning such ware (Noël Hume 1970:142-43; Lunn 1973: 179). He raises the question as to whether the faience came over with the French troops during the Revolution, or was merely the result of trade with France at that time (Noël Hume 1970:143). Since the midden deposit at Fort Moultrie appears to be virtually devoid of British military evidence, and therefore is primarily American in origin. It appears therefore that the faience at Fort Moultrie was likely the result of American trade with France during the Revolution. However, the faience may also relate to the French Hugenot population of a portion of South Carolina.

The faience is important also, in terms of fixing an archeological date for the midden deposit, since it does not occur in quantity prior to around 1775, we can use this date as a *terminus post quem* for the faience from the American midden (See Lunn 1973:179,181 for faience).

With the documents indicating the occupation of Fort Moultrie by the Americans occurring between 1776 and 1780 (Bearss 1968a:3,7,13-14; 1968c:135), we have a control date against which to compare the mean ceramic date, and thus test the applicability of the formula to such a short time period. The median occupation date would be 1778, with the major occupation of the site by the Second South Carolina Infantry Regiment occurring between 1776 and 1777 (Bearss 1968a:3,7,13-14). Since the Second Regiment was again on the site in 1779, we should

continue to use the 1778 date as the median for Second Regiment occupation (Moultrie 1802:I,376,448). The formula date should fall within a plus-or-minus 4 years of this 1778, between 1774 and 1782, to be within the degree of accuracy demonstrated through its use on other sites (South 1972:97).

Figure 51 illustrates the ceramic analysis data from the midden deposit used to derive the mean ceramic date. When the sherd count of 1057 sherds for the entire deposit, is divided into the sum of the products for the sherd count for each ceramic type, times the median date for the type, we have the mean ceramic date of 1774.0 for the deposit of midden discarded during the American occupation of the site (Fig. 51). This figure is within the expected variable range of plus-or-minus 4 years of the median date of 1778 for the American period of occupation. This date, then, would have been arrived at as the suggested median occupation date represented by the ceramics from the midden deposit, regardless of whether or not any historical documentation existed for the site.

In order to arrive at an interpreted occupation period represented by the ceramic sample we can use the 1774 mean ceramic date, and the documented end date for the American occupation of 1780. By subtracting the mean ceramic date of 1774 from the documented end of the American occupation (1780), we have six years. When this is in turn subtracted from the mean ceramic date, we have a date of 1768 as the suggested beginning date represented by the ceramic sample, resulting in an interpreted occupation period of ca. 1768 to 1780 represented by the ceramics.

However, in using this method of arriving at an interpreted occupation date represented by the ceramic sample we have depended on a *documented* end date for the American occupation of the site during the Revolution. The *terminus post quem* must be considered, however, in any *archeologically* derived interpretation of the occupation period represented by the ceramics, and these latest ceramic types are represented by Types 11 and 12, transfer printed and underglaze polychrome pearlware, which date after 1795 (South 1972:85). Using this date, therefore, in conjunction with the 1774 mean ceramic date, we arrive at a suggested occupation date *based on archeology alone*, of ca. 1753 to ca. 1795+. This broad bracket does indeed include the centrally-positioned, documented occupation period of 1776 to 1780, as well as the beginning of the occupation of the Second Fort Moultrie of 1794 to 1804, and a broad period of two decades prior to the known beginning occupation of the site.

This broader-than-desired interpreted occupation period is forced on us because we have in this deposit, not only the midden of the Americans during the Revolution, but also some small amount of midden from the period of the Second Fort Moultrie (1794-1804) thrown onto the earlier deposit. Archeologically, we are stuck with this fact if we are to maintain an objective view of the data. Subjectively, however, we might suggest that because a large quantity of faience and creamware is present, a post-1770 date is indicated, that the beginning date for the deposit might be placed after that time *provided these types and the remaining ceramics were deposited at the same time period.* Historically we know that this was indeed the fact, but we cannot use this subjective approach to our archeological data by imposing onto it information learned from the *documented* occupation of the site.

As archeologists we must depend on our archeological tools for our interpretive statements of archeological data, and not resort to the easy expedient of superimposing our historical data onto the archeological record. In our final interpretive statements we do, of course, use both the archeological and the historical data, but we should not use the documented history of the site as an interpretive crutch to prop up our statements purporting to be archeological in nature. *If we develop such habits, and then find ourselves in a situation where there is no documentation to lean on, we may well find that our archeological tool kit is empty, or that we do not know how to use the tools we have available with which to make interpretive statements of archeological data.* Such an unfortunate leaning-on-the-arms-of-history approach to historical archeology is rendering a disservice to the process of archeology.

In evaluating the occupation period of ca. 1753-1795+ represented by the ceramics from the midden deposits we might suggest in our interpretation that the six pearlware fragments representing the *terminus post quem* date of the 1790's are from minor occupation at a later time than that represented by the mass of the ceramics, but we have no way of knowing whether this is the case or whether the site was occupied only until shortly after the introduction of such ceramics in the 1790's! For this reason, we *must* assign an interpreted date for the occupation of the site as represented by this collection of ceramics, as late as 1795, at least. Our occupation period as interpreted from ceramics alone, therefore, would be constructed as follows:

Terminus post quem date from the latest ceramic type	= 1795 (at least)
Mean Ceramic Date from the South Formula	= 1774
Difference between the two dates	= 21 years
	= 1753

The interpreted occupation period represented by the ceramics alone is from ca. 1753 to ca. 1795+.

In view of the demands of the archeological data in dating this deposit to a time after 1795, it is interesting to note the historical record in this regard. In 1783 a hurricane damaged the fort so badly that it was never occupied again (Bearss 1968a:18-20), thus ending the deposition of midden thrown from the gateway of the First Fort Moultrie. In 1791 George Washington visited the ruins, and that same year the assembly passed a resolution allowing people to live on the fort property and to build there on half-acre lots (Drayton 1821:206-207; Bearss 1968a:19). In 1794 the construction of Fort Moultrie II was begun, and a new era of activity of the site began (Bearss 1968a: 36,39-40,45). With these historical points in mind it is easily seen how some six pearlware sherds of types dating after 1790 could find their way onto the midden deposit thrown some years before from the first fort gateway.

THE EIGHTEENTH CENTURY BRITISH MIDDEN IN THE ENTRANCE-PROTECTING MOAT FOR THE FIRST FORT MOULTRIE (PROVENIENCE NOS. 27,37,68,56,75)

This five foot wide ditch, two feet deep, has been termed the moat because of the water-laid gray sand layer seen in the bottom of the ditch (Figs. 8 & 9). This gray sand layer contained wood chips from ax-cutting of palmetto and pine logs, indicating that such activity was going on at the time the ditch was first opened, probably during the construction of the fort in 1776. The fact that the wood chips have not rotted in two hundred years is a clear indication of their having been beneath the water level from their first introduction into the bottom of the ditch. The ditch being water filled both at

the time it was first excavated, and certainly now, when the water table keeps the ditch submerged, makes the term "moat" appropriate.

Function

The interpretation of the ditch as an entrance-protecting moat is based on the fact that it is parallel with the first fort parapet, and extends along the curtain and bastion walls in the area of the fort entrance gate (Fig. 2). It may well have continued for some distance beyond this gate, but was not seen to cross the entrance-walk for the third fort. To be conservative, therefore, and limit our interpretation of this ditch to the area where it was seen archeologically, we have referred to it as the entrance-protecting moat. The contents of the ditch vary dramatically between Feature 27, where the fill is mostly sand and palmetto logs (Figs. 9,37) and Features 37, 56, 68, and 75, where the fill is characterized by brick-bat and oyster shell midden (Figs. 8, 13). In area 27 (Figs. 2,37), palmetto logs were found in the fill of the ditch near the top, and beneath these a dog was buried or discarded. Artifacts from this area of the ditch were far fewer in number than farther toward the north in the ditch. However, the contents of all five provenience areas of the ditch have been treated as a single analysis unit. The midden layers, in some cases over and adjoining the ditch, are analyzed as a midden deposit, whereas the contents of the ditch are treated as a feature. Once the ditch was isolated by removal of the midden layers, the contents were carefully removed and water-screened using power screens (Fig. 33).

The rubble fill of brick-bats and mortar joints, with virtually no whole bricks, suggests that structures in the area were being

salvaged for their bricks. The remaining rubble was discarded into the ditch, filling it. From the fact that the ditch was thereby filled, we can assume that whatever function was served for those who originally excavated it, it no longer was a consideration for those who filled it. We might suspect that if it was the Americans who dug the ditch to protect against an assault by land against the entrance to the fort, perhaps it was the British who filled it after they captured the fort in 1780 (Bearss 1968a:16). However, the filling may well have been done by persons salvaging bricks from the fort after the Revolutionary War was over (Bearss 1968a:20). The fact that a British Brown Bess musket barrel, frizzen, black powder in some quantity in association with the barrel, a brass butt-plate for a flint-lock pistol, gunspalls, and a bolt and eye from a gun carriage (Fig. 56), were all recovered from the ditch tends to suggest a military function for the ditch, though not infallable proof for such a function by any means (Gun part identification by Dr. Francis A. Lord, Curator of Historical Collections, University Museum, University of South Carolina).

The shape of the ditch profiles (Figs. 8,9) reveal a similarity to other fortification ditches of the Revolutionary War Period in South Carolina. The depth of two feet is the same as that for the 1780 redoubt at Charles Towne (South 1971), and the British work at Fort Watson (Ferguson 1973), dating from 1781. The ditches at Holmes Fort and at the Star Fort at Ninety-Six, dug by the British in 1780, are three feet in depth (South 1972), and the ditch at Camden was five feet deep (Strickland 1971). A comparison, therefore, with fortification ditches of the same time period, suggests that the Fort Moultrie moat was comparable, and unique only in that it likely held water in the

bottom after it was dug. Architecturally, then, there is no reason to suspect that this ditch is anything other than a typical anti-personnel ditch of the type seen at other forts in South Carolina during the Revolutionary War.

Synthesis of Metal Buttons and the British Occupation Data from the Entrance-Protecting Moat (Provenience Nos. 37,68,56)

Archeological Synthesis of the Button Data

Direct historical data were recovered from the entrance-protecting moat ditch of the First Fort Moultrie in the form of 17 military buttons (Fig. 50). Four civilian type buttons were also found in this context. To begin the analysis of these artifacts we will look at them from an archeological point of view, without resorting to the direct historical data revealed by the buttons themselves. The fact that 17 of the 21 buttons recovered had numbers or letters would, in itself, indicate a military association, a classified, perhaps stratified organizational base, as opposed to plain or decorated buttons without numbers or letters. The following numbers were found on the buttons: 2, 19, 23, 30, 37, 62, and 63. These numbers might be considered to all belong to the same classification were it not for the wide spread between 2 and 19, and between 37 and 62. We might suggest then, that 2 belonged to one system, 19 through 37 to another, and 62 and 63 to a third, but we have no way of knowing this from the numbers alone, and such an hypothesis could not be supported.

When we look at the material of the buttons (Fig. 50), we see a difference between silver and whitemetal buttons, and might suggest that this reflects the difference between an upper socio-economic or

status group and a lower. From the button data chart in Figure 50, and from the buttons, themselves, (Fig. 1) we find that the two buttons with "2" are made of a poorer quality pewter than the white-metal buttons with higher numbers, and are technically inferior to the higher numbered buttons. We also see that all but the buttons with "2" have some decorative element to the number. The "2" buttons have a significant difference from the other numbered buttons in that the eye is cast along with the button in one-piece construction, whereas the other numbered buttons have a wire eye (Fig. 50). From this combination of attribute differences it seems justified to separate the buttons with "2" from the others, typologically, and suggest that this button type is probably from a separate numerical group, and thereby possibly a different cultural group than the higher numbered buttons.

Two of the buttons have the letters "RP" beneath a crown. A crown suggests royality, and thereby implies that the "R" may refer to the word "Royal". The "P" could, of course, stand for "patriots", "politicians", "patrol", or "Provincials", the latter we know from documents is the correct word, but from archeology alone we cannot know this. We can, however, from archeology alone, suggest that the buttons represent four separate groups or classes of individuals: one is a group that wore plain or floral device buttons. Another is a group that wore comparatively poorly made pewter buttons with a "2" in relief. A third is a group wearing buttons with letters "RP" beneath a crown. The fourth group wore numbered silver or whitemetal buttons with some decorative motif accompanying the number. The fact that 13 of the 21 buttons are from the latter group might suggest that was the predominant group, with the "RP" and "2" groups being less

well represented (assuming pattern in the archeological record reflects cultural pattern). The four buttons with plain or floral devices apparently represent a third, less predominant, group.

This examination, conducted without the benefit of direct historical documentation, suggests that four groups are likely represented by the buttons, with a structured, military, regimented, probably stratified group predominating. The variety and numerically high (63 etc.) numbers are represented in this sequence would suggest that there are probably many units involved in the military sequence, suggesting either that a large number of companies, regiments or corps are involved, or that each individual had a number. The latter possibility is more in keeping with a prison system, but the technologically sophisticated manufacture methods, and the expensive metal involved in the construction of the buttons would likely negate this possibility for interpretation. The large number of "regiments, corps, companies" etc., represented by the higher numbered sequence would also imply a highly complex logistics base, and perhaps a long tradition is represented by this group of buttons.

The groups represented only by the "2" and "RP" buttons suggest less of a complex organization, one with possibly a tradition with less time depth since "2" is low in the numerical sequence of "company, regiment, or corps" etc., possibly represented by the numbers. The use of letters rather than numbers for the "RP" button, and the fact that this is the only one having a crown as part of its motif, might suggest that this group was a special one, perhaps not lending itself to a numerical sequence designation.

The presence of three feathers shown on the button with "23", might have reference to a family crest or device, but little more can be said about this motif. It may have similar symbolism to the eight pointed star inside of which "63" is seen, but again the symbolism of these motifs is outside the possibilities of archeological interpretation (See Figure 1 for illustration of the buttons).

From the buttons alone we have examined the possibilities for interpretation, and have found four groups likely represented by the buttons. We have seen that military and non-military units (civilian) are represented, and we have seen that there are two military units and a special group apparently involved. The chronological framework for these units on the site is not revealed in the buttons, and we must turn to history, or to other archeological data for this determination.

Historical Synthesis of the Metal Button Data

From the foregoing section it seems clear military buttons recovered from the moat ditch in Proveniences 37, 56 and 68 (Figs. 1,2,13,37), refer to four groups. These are the British military regiments of foot, the Royal Provincials, William Moultrie's Second South Carolina Infantry Regiment, and civilian buttons. The latter were probably from militia units attached to one or more of the military units. The predominance of British and Royal Provincial buttons (71.5%), clearly points to the period of 1780 to 1782 during which time the British were in command at Fort Moultrie (Bearss 1968a:3,13; 1968c:135). This chronological bracket is, of course, anchored in the historical documentation, but the buttons themselves, through their regimental numbers, reveal chronological information from the documented history available for each regiment.

The above section on archeological analysis and interpretation of buttons was presented without the aid of direct historical documentation from the buttons themselves. For chronology, however, we have to depend on the historical data the buttons reveal through the history of the archeological site, and through the history of the regiments whose numbers appear on the buttons.

From the chronological data available for the various regimental units represented by the buttons as seen in the chart in Figure 50, we see that the *terminus post quem* is represented by the date of June 3, 1781, from the history of the 19th and 30th Regiments of Foot. Therefore, these buttons were dumped into the moat after June 3, 1781, and before December 14, 1782, when the British left America (Moultrie 1802:II,361).

Only two of the buttons from Moultrie's Second South Carolina Infantry Regiment were found in the moat, along with only four civilian buttons. This contrasts sharply with the high percentage (71.5) of British buttons recovered there, and clearly reveals the British as the ones who were responsible for filling the moat, apparently having no use for it in their scheme for the defense of Fort Moultrie.

The information revealed by the buttons from the fort moat, therefore, indicates the names for the various regimental units represented by the numbers and letters on the buttons, as well as a chronological framework for their presence on the site from 1780 to 1782. *The presence of these units is of particular interest, since, through historical archeology, we have revealed for the first time the names of British Regiments who were likely at Fort Moultrie during this period, written history not having recorded this information.*

It is interesting to note that the 62nd British Regiment of Foot was interned after the Battle of Saratoga in 1777. The presence of one of the buttons from this regiment at Fort Moultrie between 1780 and 1782 may indicate that a member of this regiment who was later parolled or exchanged, or a member of that regiment was serving with a different regiment at Fort Moultrie, but wearing his old uniform from the 62nd Regiment of Foot (Darling 1970:57).

With this specific British association with the deposit of rubble and midden in the fort moat, and total absence of any numbered British Regimental buttons from the midden deposit to the west of the ditch, north of the entrance-blind wall, we see a clear separation between midden deposits of the Americans and the British during their respective periods of occupation on the site.

Ceramic Analysis and Chronology from the Entrance-Protecting Moat of Fort Moultrie (Provenience Nos. 27,37,56,68,75)

Sixteen ceramic types plus Colono-Indian ware were recovered from the moat ditch. Colono-Indian ware represents 38% of the total pottery recovered, and will be discussed in a later section of this report. The sixteen types used to arrive at the mean ceramic date for the collection are indicated in Figure 51, and total 230 sherds. It is important that the reader closely study Figure 51 to understand the range of ceramic types present. As was the case with the ceramics recovered from the American midden deposit discussed in a previous section of this report, lead glazed earthenware, Oriental porcelain, trailed slipware, etc. were not included in this analysis because of their lack of sensitive chronological value. A complete listing for all types is on file at the Institute of Archeology and Anthropology. The total sherd

count divided into the sum of the products created by multiplying the sherd count for each ceramic type by its median date, and subtracting the 1.1 years adjustment (South 1972:217), produces a *mean ceramic date* of 1781.8 for the ceramics from the First Fort Moultrie ditch (Fig. 51). This date is well within the 1777 to 1785 range expected for the formula date. An important point to remember here is that in the absence of any written documentation, the formula would have provided us with dates of the American occupation median of 1774 (instead of the known 1778), and a date for the British occupation, based on ceramics alone, of 1781.8 (instead of a known median occupation date of 1781), a performance accurate enough to be quite acceptable by archeological standards! Thus, we see that the formula works exactly as expected, once again demonstrating its validity as a dating tool, and thereby verifying the existence of the cultural process (horizon) which is the explanation for why the formula works (South 1972: 71).

In order to determine an interpreted occupation period represented by the mean ceramic date of 1781.8, we can use the *terminus post quem* date of 1780, represented by Type 17 (Underglaze Blue Hand Painted Pearlware, South 1972:85; Noël Hume 1970:128-129), Figure 51, this report. This type pearlware has a manufacture and/or occurrence date of ca. 1780 to ca. 1820 (South 1972:85), and is represented by only one sherd in the British midden in the moat. Using this date of 1780, with the mean ceramic date of 1781.8, and subtracting one from the other, we have 1.8 years difference. We then add this date to 1781.8, and arrive at an interpreted occupation period represented by the ceramics of ca. 1780+ to ca. 1783.6, which encompasses the known occupation period of 1780 to 1782 for the British on the site.

Creamware, "Blue & White", and Pearlware

Other than the single sherd of Type 17 pearlware mentioned above, the only other pearlware from the ditch fill was a marbled slip pearlware, which fits the description by Donald Towner (1957:41-42), speaking of a creamware "made of mingled clays in imitation of stones such as onyx, porphyry and granite, [which] were made throughout the Wedgwood and Bentley Period (1769-1780)". The primary difference between Towner's creamware description and the sherd found in the British midden deposit, is that the sherd was pearlware. However, since pearlware such as Type 17 occurs as early as 1780, and the marbled slip technique was used in the decade before 1780 on creamware, it is not at all surprising that we find marbled slip on pearlware dating from a 1780 context. This type pearlware was not shown on the ceramic chart (South 1972:85) indicating the manufacture periods of the ceramic types, but has been assigned the same temporal bracket as Type 17 (ca. 1780-1820), for use in the ceramic formula (Fig. 51).

There is another interesting ceramic type present in this midden deposit that was not listed on the ceramic chart (South 1972:85), it is referred to here as "Underglaze Blue Painted Creamware" (Fig. 51). This is a relatively rare type at this site,and was represented by only two pieces from the ditch fill. This type was assigned the same temporal period as creamware for the purpose of the ceramic formula application (Fig. 51). This is probably an example of the "blue painted" ware described as being made by a number of potters in 1787 (Noël Hume: 1969;390), and earlier. The earlier evidence comes from Wedgwood, who, in 1779, spoke of "the best blue & white", recognizing that this was a different product from creamware and from pearlware, which he called "Pearl White" (Noël Hume 1969:390; 1973:217).

The point we are making here is that these sherds of underglaze blue painted creamware are sometimes so light as to resemble pearlware, but do not contain enough cobalt in the glaze to warrant calling them pearlware. These "blue and white" examples often appear as light creamware on the interior and whiter, more like pearlware, on the blue painted exterior. The addition of chert to the creamware body in 1772 whitened the body considerably. This fact, plus cobalt decoration is seen as the ware referred to by Wedgwood in 1779 as "blue & white" (Noël Hume 1969:390; 1973:233). By 1779 Wedgwood had produced his "Pearl White" (pearlware), by adding cobalt to the glaze, and by the addition of flint to the creamware body (Noël Hume 1969:390). In the 1770's, therefore, and probably into the 1780's, the "blue & white" ware was being produced by simply decorating a chert-whitened-body ware with underglaze blue designs, which resulted in a lighter-than-creamware underglaze blue ware.

In view of Wedgwood's letter, and the typological glaze attributes of archeologically recovered ceramics, the following is the relationship between the type names and the ceramics:

Creamware:	Cream bodied cream-colored, greenish puddling of the glaze.
"Blue & White"	Cream-bodied, pale creamy-white colored, sometimes pearl-colored, (sometimes creamware appearing glaze on one side, pearlware characteristics on the other), with evidence that cobalt decoration contributed to the pearlware appearance. In other words, "blue and white" is a transition type between creamware and pearlware, resulting from the addition of chert to the body and the use of cobalt decoration in the form of floral designs, or as in the case of Annular Wares, broad bands of blue. The glaze puddles sometimes bluish, sometimes pale greenish. Easily confused with pearlware, but clearly not having cobalt added to the glaze, with the cobalt puddling coming from the blue decoration.

Pearlware: Whiter, cream-bodied, bluish-white, bluish puddling, produced by the addition of drops of cobalt to the glaze as described by Wedgwood in 1779. The addition of flint to the creamware body aided in producing a whiter ware than the creamware, though the bluish glaze puddling was the result of the addition of cobalt to the glaze (Noël Hume 1969:390).

From this it appears then that "blue and white" was a transitional type between the creamware of 1770's and the pearlware of the 1780's. This is supported by the fact that "blue and white" ware is found in archeological contexts of the early 1780's (and apparently as early as 1776 in Brunswick Town; South 1960:1972;107), and was an experimental ware of Josiah Wedgwood as early as 1765. He developed it into a whiter ware than creamware by 1772. At that time Wedgwood spoke of a newly developed body which had "a small quantity of limestone which is intermix'd with all this Chert [a flintlike rock], so that the *Pottery in general* will now make their Cream-colour nearly as white as the white stone-ware..." (Noël Hume 1969:390). It is not surprising, therefore, that some pearlware-like sherds, probably representing the "blue and white", are being found on sites dating from 1780. Such sherds may well be found in future excavations in contexts of the 1770's, representing the transition period from creamware to pearlware. Indeed, a piece of pearlware dated 1777 in overglaze black is in existence, but Noël Hume has attributed this to a retrospective dating of the piece because it dates prior to Wedgwood's letter of 1779 (Noël Hume 1969: 393). In view of the fact that Wedgwood indicated that a white bodied ware "nearly as white as the white stone-ware" was being produced in 1772, clearly indicates that such a ware (perhaps best called "blue & white"), could well have been produced in the 1770's.

It is interesting to note that the major ceramic type other than Colono-Indian pottery recovered from the fort ditch was creamware, as was the case with the American midden deposit. However, delft, which had constituted a major type in the American deposit was represented by only 7 sherds in the British deposit (Fig. 51). Faience was still the second most represented type, as was the case in the American deposit, and may well indicate that both British and Americans had access to this product from Rouen during the Revolutionary War Period, an entirely likely situation, since the period of 1780 to 1782 is in the middle of the period from 1778 to 1784 when advertisements for the ware were appearing in the newspapers (Noël Hume 1970:142-43; Lunn 1973:179).

The entrance-protecting moat is seen, therefore, from the above analysis of the architecture, the buttons, and the ceramics, to be clearly associated with the First Fort Moultrie, and was filled during the period from 1780 to 1782 when the British were occupying the site.

SYNTHESIS OF ARTIFACT DATA FROM THE AMERICAN AND BRITISH MIDDEN DEPOSITS

The Research Framework

From the foregoing synthesis of the buttons and ceramics, and the architectural relationships relating to them through the midden deposit and the moat, we have answered certain basic questions regarding these important archeological data. We have identified the occupants responsible for the midden deposits in the two areas, and we have demonstrated the time period involved for each. In order to further examine the artifact classes associated with these two deposits, we should examine the philosophy of our research.

Historical archeology site reports describing architectural features in the first half, and artifacts in the last half, with few synthesizing statements integrating the data are limited in their usefulness. A Sears & Roebuck Catalog of relics from historic sites is of little use unless accompanied by data demonstrating the contextual relationship of such artifacts to an architectural feature, a chronological framework, a functional relationship, or a cultural activity or patterning. With such a provenience association, however, the artifacts can possibly be used to date the associated architectural feature (as was done with the contents of the fort midden and moat), or an historically dated architectural feature may well contribute to the dating of the artifacts in direct association with it. These are clearly chronological considerations, but there are others to be weighed when analysis of artifacts is undertaken. *The degree to which an artifact analysis is justified is the degree to which that analysis contributes to our knowledge.* The value of an archeological analysis unit is in

direct proportion to the degree to which there is a data flow from the analysis unit to the data bank for use in interpreting the archeological record (South 1974:Appendix II of this report). Artifacts in association with each other, or with features or stratigraphic layers, can tell us something about chronology, associative-functional relationships, activities, use areas, architecture, and cultural patterning and process.

It is misleading to assume, in historic site archeology, that archeological data must have a direct historical counterpart. There is of course, nothing wrong with archeological-historical connections, but this is not the primary archeological goal. As archeologists we deal primarily with material culture. If we are primarily concerned with matching archeological with historical data, or with interpreting the wealth of historical reality from the pitifully small collection of archeological data representing surviving items of material culture, then we are chasing rainbows. If however, we are looking for patterns in the material remains from past human behavior that can be demonstrated to be predictive of pattern, then we are not necessarily dependent upon the historical record at all, and can concentrate on the archeological record for revealing such patterning, with the forces that create that patterning very likely not recognized at all by the individuals or the society from which the patterns emerged. With this as a goal, the very fact that there are mutually exclusive data sets between the historical data and the archeological pattern is seen as a possible valuable observation rather than a regrettable occurrence, since our emphasis is then on patterns of cultural regularity rather than on explication of historical "reality". Therefore, archeologists should focus their

efforts toward the discovery and explication of patterns of material culture (See Harris 1968:359, for a statement of this position).

With these points in mind, therefore, it should be clear that artifacts demonstrated to be from a relatively "tight" context such as that of the moat, or for instance, a shipwreck site, would be of value for chronological analysis, associative analysis, or other analysis of pattern. Those artifact classes from the moat and midden most amenable to chronological analysis are buttons and ceramics, as seen in the above sections of this report. With these data synthesized, we are faced with a large body of other artifact classes, less sensitive chronologically, but which may well reveal clues to patterned cultural activities within the temporal bracket determined through the button and ceramic analysis. Such activities might include military, building construction, building destruction, industry, crafts, economy, subsistence resources, food preparation and consumption, and associated tools and artifacts. They may reveal the presence of women, children, and animals, privates, tailors, butchers, etc., etc.

If we find from our examination of these artifacts that there is a class of objects that, because of their interpretive value for one of the above activity areas, or because they help to answer questions asked in our research design, such artifacts should by all means be discussed and described to the degree relevant to the questions being asked. If we have, however, a few miscellaneous "HL" hinges, spikes, a key, staples, a hasp, etc., we need not set up a taxonomic catalog of these items since such a procedure has a very limited, secondary research value. We can, however, include these items in a classification of "Building Hardware", and from such functional groupings some interpretive value can perhaps emerge.

The point here is that if we want information on keys we go to the analysis and synthesis report dealing with keys and find out about them. If we want information on buttons we turn to the best sources for such data. There are many sources for such information, and in these analysis and synthesis compilations we have a more definitive statement than we can make from an occasional button or key from a ruin we are examining. If we find that the data from our site will add *additional* information not yet recorded, then we are justified in providing some descriptive detail to point out the nature of this *additional* data, otherwise a descriptive analysis is a questionable procedure.

In American archeology of prehistoric sites there is a tradition of illustrating every artifact class in site reports, toward the valid goal of comparative analyses between sites for the purpose of answering such questions as diffusion, culture contact, migration, evolution of artifacts, etc. Historic site archeologists have assumed the same procedure necessarily must be followed with their data. However, in dealing with eighteenth century British American sites, some artifact classes are likely to remain very uniform throughout the reach of the British colonial empire, and a constantly repetitious illustration and minute description of the same ever-present button, key, musket ball and marble is a questionable exercise. Ivor Noël Hume has expressed this point of view very well in a recent speech before the Society for Historical Archaeology:

> ...the illustration of a few rim sherds of common 18th-century ceramic forms that are already on record as having been found from southern Australia to northern Canada, contributes virtually nothing-unless they happen to be incorrectly described, and so warn

Frequency Tabulation of Several Artifact Classes From the First Fort Moultrie

THE AMERICAN MIDDEN DEPOSIT

Midden Deposit	Bone #	Bone oz	Wrought Nails	Cut Nails	Pipe Stems 4/64"	Pipe Stems 5/64"	Pipe Stems 6/64"	Buttons One-hole	Button Blanks	Wine Bottle Fragments neck	Wine Bottle Fragments base	Wine Bottle Fragments count	Case Bottle Fragments neck	Case Bottle Fragments base	Case Bottle Fragments count
17E	39	9	476	14		38	12	16	75	12	23	653	2	3	77
17F	21	1	150	3	1	8	3	20	3	3	1	174	1	1	61
18E	5	12	47	5		4	2	2	5	1	2	74			
18F	16	5	43	2		13	4	2			3	130			32
33E	15	0	68	2	6	9	1	4	4	2	1	173			16
33F	37	8	90	2	1	4	1	4	1	1	3	167		1	40
32E	15	10	80	7	1	15	4	3	13	3	1	237			44
48E	13	8	68			3		7*	58	3		187			20
52F	42	3	255		2	16	2	10	62		5	222	6		64
67E	11	2	85	1	2	7	2	9	23	2	2	196			9
TOTAL	217	6	1362	36	13	117	31	77	244	27	41	2213	9	5	363

THE BRITISH MIDDEN DEPOSIT

56	25	13	118	0	1	17		11	80	2	9	197	1		12
68	18	3	56	0	6	9		2	51	4	7	258	1	2	3
37	21	14	43	0	3	9	2	4	23	4	9	197		2	33
75	21	2	68	0		1		16	81	3		56			
27	8	9	17	0			2	8	1		2	46			3
TOTAL	95	6	302	0	10	36	4	41	236	13	27	754	2	4	51
GRAND TOTAL	312	12	1664	0	23	153	35	118	480	40	68	2967	11	9	414

*One 3-hole example.

Figure 52

> the reader to beware of the whole report. I am not saying that this material should not be recorded or that any detail should be omitted from the final manuscript. But I am saying that a small number of copies of that report, cheaply duplicated, and housed in safe, known repositories, is all that is needed. Much more valuable to fellow archaeologists, curators, and social histirians, are research studies on specific topics, stemming from excavations and which have something new and useful to say. When money and publishing outlets are scarce, it is these studies that will be of the greatest practical value. (Noël Hume 1973:7)

The phrase "research studies...which have something new and useful to say" is the critical one for reflecting the attitude that can be used as the basic yardstick for evaluating the contribution made by an archeological report. Traditionally, historical archeologists have 1) leaned heavily on the documents, using archeology only as a means to "fill in" some details, and 2) involved themselves in a detailed analysis and description of artifacts, as though the answer lay in recording endless metric minutia, and, 3) concentrated on revealing the architectural features, since these data are often most dramatically productive. A combination of these approaches is now wide-spread as part of the American historical archeology-preservation scene. There is a fourth approach, rarely seen as yet, that treats historic site data as reflecting cultural patterning, and concentrates on the synthesis of data from the material remains of culture. This approach has been emphasized in this report. This statement of philosophy regarding the treatment of artifact data from historic sites provides a background for the presentation of artifacts to follow. The table in Figure 52 lists the item count for several classes of objects from the American and the British middens, and these are discussed in the artifact

synthesizing sections to follow. In addition to this table artifacts recovered from the British and American midden deposits are classified according to the categories of "Supplies", "Clothing", "Furniture", "Weapons and Military Items", "Construction Hardware, Materials, and Tools", and "Subsistence". These classifications are lists of the items present, with synthesizing comments, provided so that the researcher interested in specific topics can see whether or not artifacts in his area of interest are present. If his research involves a synthesis of data regarding pewter spoons in the eighteenth century, for instance, he may want to examine the pewter spoons listed here as coming from one or the other of the midden deposits at Fort Moultrie. If so, he can examine them at the Institute of Archeology and Anthropology, take whatever measurements, photographs, etc. relative to his study, or request such information from the Institute.

As Noël Hume has so aptly put it: "Nobody gives a damn whether one's building is two inches out of true at the south-east corner--unless that fact has something useful to say" (Noël Hume 1973:7). And certainly nobody gives a damn whether or not a flatiron is 6 1/2" long or merely 6" long, unless that fact is useful in some manner toward providing us with information other than the fact of the measurements themselves. For a researcher dealing with flatiron analysis and synthesis, these data are easily obtained from the artifact using the specifications required by the researcher conducting such a study.

However, there is a potentially rewarding direction yet to be fully explored in historical archeology, and that is in the construction, by the archeologist, of data sets of items of material culture representing various activities for which detailed historical documentation exists.

Such systematically constructed, documented sets of associated artifacts, (regardless of their chances of survival in an archeological context) reflecting specific behavioral activities within the past cultural system, would allow the archeologist to make more valid interpretations from the archeological record to the behavioral activities it reflects.

An example of this on the obvious, simplistic level usually used in historical archeology is seen in the illustration of the Second South Carolina Regiment Private in Figure 1. Here a single button with "2" in relief from the archeological context, combined with historical data revealing the presence of the Second South Carolina Regiment of Foot at Fort Moultrie, allowed the entire uniform to be "reconstructed" due to research previously done on the associated set of clothing items that went to make up the uniform of a private of the Second South Carolina Regiment (Lefferts 1971). Knowing that William Moultrie was the commander of this regiment at Fort Moultrie at one period of time, we are able then to use his portrait in our interpretive presentation (Fig. 1). The single button is the pivot allowing for this obvious reconstructive interpretation. This is the kind of simple one-to-one matching of data sets that we in historical archeology have been doing for decades. The point we are making here is that we must begin to carry this procedure far beyond this level, and into the arena of science if we are to take maximum advantage of the rich potential provided by both the historical and archeological records. Far more complex sets of associated items of material culture and their accompanying behavior patterns must be carefully spelled out in order to arrive at the kind of projections from the archeological to the behavioral correlates about which I am speaking.

Some progress in this direction has already been made due to the nature of the archeological data, for instance in kiln sites, where waster deposits produce characteristic kiln furniture and other clues reflecting specific activities of the potter. Similar activities can be interpreted from archeological data recovered from shop ruins of craftsmen such as the blacksmith, the goldsmith, the silversmith, etc. However, these are the more obvious areas where archeological data-sets clearly reflect the behavioral activities that produced the archeological record. It is in those other areas of not so obvious culture where our sets of associated items of material culture and the related behavior have not yet been clearly and concisely outlined for use by the archeologist. Once this is done on a broad base, far more interpretive juice can be milked from the archeological data than is now the case.

An example of such a data-set is seen in the behavior centering around the tea ceremony. The behavior associated with this practice in America would need to be specifically examined through sources such as Rodris Roth's study (1961) "Tea Drinking in 18th-Century America: Its Etiquette and Equipage", and the primary and secondary items of material culture associated with it clearly defined, with particular consideration to those items most likely, and least likely to become a part of the archeological record. Once this is done statements of probability can be confidently made as to the missing items of material culture associated with the tea ceremony even when only one or two items in the data-set are present from the archeological context. This procedure allows for interpretive statements of high probability to be made, as contrasted with our present procedure of merely suggesting that the tea ceremony was likely being practiced on the site. In the

one case we are dealing with statements of scientific probability, and in the other we are merely suggesting an analogy based on historical documentation. To the scientific archeologist the difference is considerable.

Summary of the Chronological Framework for the Midden Deposits

With the above research framework in mind, we turn to the presentation of various classes of artifacts associated with the two midden deposits we have been considering, the American midden deposit, and the British deposit in the fort moat. By assigning these names to the deposits we do not mean to imply a *total* American or British association for the two proveniences, but a primary association is certainly indicated by the analysis of the buttons and the ceramics.

As we have seen, the American midden deposit has been dated from the period from around 1753 to sometime after 1795, encompassing, therefore, cultural material from both the first and second forts, as learned from historical documentation. Since we know that the fort was not occupied until 1776, we can use the time bracket of 1776 to 1795+ for the American midden deposit. However, when we are expressing *archeologically* determined dates, we must conform to the date range dictated by the *archeology*.

The British midden in the moat, has a much more restricted time span, being ca. 1781 to ca. 1783.6 based on archeological data, which fits well with the documented British occupation period of 1780 to 1782 on the site. With this chronological framework for the midden deposits established through historical archeology, we turn to a presentation of the artifact classes from these contexts.

Ceramic Form Analysis from the American and British Midden Deposits

The vessel form of the ceramics from the American and the British middens was examined using only two criteria, producing what is referred to as "heavyware" and "teaware". Other divisions could, of course, be used, such as "storage jars", "kitchen ware", "chamber wares" etc., but the two divisions were considered adequate in dealing with the ceramics from these deposits. Fragments were classified into the "teaware" group on the basis of whether they were from teapots, saucers, cups, or slop bowls for disposing of tea leaves. The "heavyware" group included plates, platters, jugs, heavy bowls, chamber pots, storage vessels, etc. This classification was found useful by Leland Ferguson in his analysis of the ceramics from the 1780-81 British-occupied Site of Fort Watson, where he found that there was a realistic separation of "heavyware" from "teaware" in different areas of the site (Ferguson 1973). He interpreted this information at Fort Watson as reflecting different eating practices on different areas of the site.

In the American midden deposit at Fort Moultrie the total sherd count of 1217 sherds revealed that 25.8% were from "teaware" forms and 74.2% were "heavyware" forms (Fig. 51). From the British midden in the ditch the 269 sherds divided into 34.2% "teaware" forms and 65.8% "heavyware" (Fig. 51). When the totals for both middens are combined we find that "teaware" is represented by 27.3% of the ceramic fragments, and 72.7% are from "heavyware". This three-to-one relationship of "heavyware" to "teaware" in an interesting contrast to the situation found to have existed at the Fort Watson Site, where the figures were reversed, 77% of the 161 sherds being "teaware" forms, and 23% being from "heavyware" forms (Ferguson 1973:26). One interpretation of the difference between these percentage relationships seen

here might be that the Fort Watson encampment was more of a field operation, whereas Fort Moultrie was a permanent installation. In a field situation where mobility was a consideration, "heavyware", as the name implies, may not have been as abundant as the lighter weight "teaware" types. More data are needed, of course, before further comparisons are made, and recording of percentages of "teaware" in relation to "heavyware" is not done by many historic site archeologists. Hopefully, as more military sites of the Revolutionary War Period are excavated, such data will emerge, at which time further interpretations from the demonstrated patterning of the archeological record can be undertaken.

An interesting note regarding the presence of ceramics on military sites of the Revolution is the fact that it is considered highly unlikely that enlisted men during the Revolution had much access to ceramics, tinware being the more likely artifacts involved in their eating patterns. (Dr. Francis A. Lord, personal communication). Unless evidence is produced to the contrary, it would appear quite likely that the English ceramics found on British American military sites of the Revolution relate to activities of officers rather than to the enlisted men. A likely explanation for the occurrence of such high percentages of Colono-Indian ware in the midden deposits at Fort Moultrie is that this ware was being used by the enlisted men, who otherwise were reduced to making do with their tin cup and plate. This possibility is also one that needs to be examined in the light of the Fort Moultrie midden deposits. This topic is dealt with in more detail in a later section of this report.

however, recovered at Fortress Louisbourg (Lunn 1973:188). During the excavations at Salem, North Carolina glazed creamware with sprigs and bisque pieces (kiln wasters) were found with the diamond motif. These have been attributed to ware made by the potter Rudolph Christ (South 1970:70; 1971:171; also a manuscript in preparation), dating from ca. 1782 to 1821. However, Christ was taught his craft regarding the creamware type pottery by William Ellis who once worked in John Bartlam's pottery works in Charleston in 1770 (South 1971:171).

The question arises as to whether the diamond pattern could be a localized motif, or whether it has a broader base in English creamware generally. In discussion with Dorothy Griffiths of the Artifact Research Section of the Canadian Historic Sites Division in Ottawa, it was learned that the diamond motif was being made in Melbourne and at Staffordshire, apparently at the time of the American Revolution. It was found in contexts dating ca. 1776 to ca. 1783 (Dorothy Griffiths, personal communication). Ivor Noël Hume has found the motif in Virginia from around 1775 to ca. 1795. (Noël Hume, personal communication), and Lee Hanson has found it at the Revolutionary War Site at Fort Stanwix, New York (Lee Hanson, personal communication). It appears, therefore, that the diamond motif creamware is a minor English creamware type to be expected on sites of the last quarter of the eighteenth century.

The finding of bisque pieces made by Rudolph Christ at Salem, North Carolina merely reflects the influence of the English motifs of the period. The American version of creamware was made by John Bartlam and William Ellis at Charleston and Camden, South Carolina, and by Rudolph Christ at Salem, North Carolina in factories operated between 1770 and 1781 (South 1970:71;1971:171; Ramsey 1809:597; Inventories,

Creamware Rim Motifs from the American and British Midden Deposits

The following creamware rim motifs (Towner 1965:56), were found on the creamware fragments from the American and British midden deposits.

	AMERICAN MIDDEN	BRITISH MIDDEN
Rim Motifs	*Count*	*Count*
Beaded	6	0
Queens	1	0
Diamond	4	2
Feather	32	7
Royal	31	3

From this count of the motifs seen on the creamware plates it becomes easily apparent that the feather and Royal motifs are the predominant ones represented, with the beaded, Queens and diamond motifs being present, but in minor degree, and the Queens and beaded motifs totally absent in the British midden deposit of 1780-82. Since these three motifs are associated with the American midden, which we have seen is the result of an occupation primarily from 1776 to 1780, one might suggest this is because they are *earlier* motifs. However, this is not a tenable position since the *terminus post quem* ceramic date for the deposit is 1795, which might imply, with equal argument, that they were *later* motifs. All we can say archeologically, therefore, regarding the motifs from the creamware plates from the midden deposits at Fort Moultrie, is that in the British midden of 1780 to 1782, the feather, Royal and diamond motifs are present, and that in the American midden the feather and Royal motifs are the major types present.

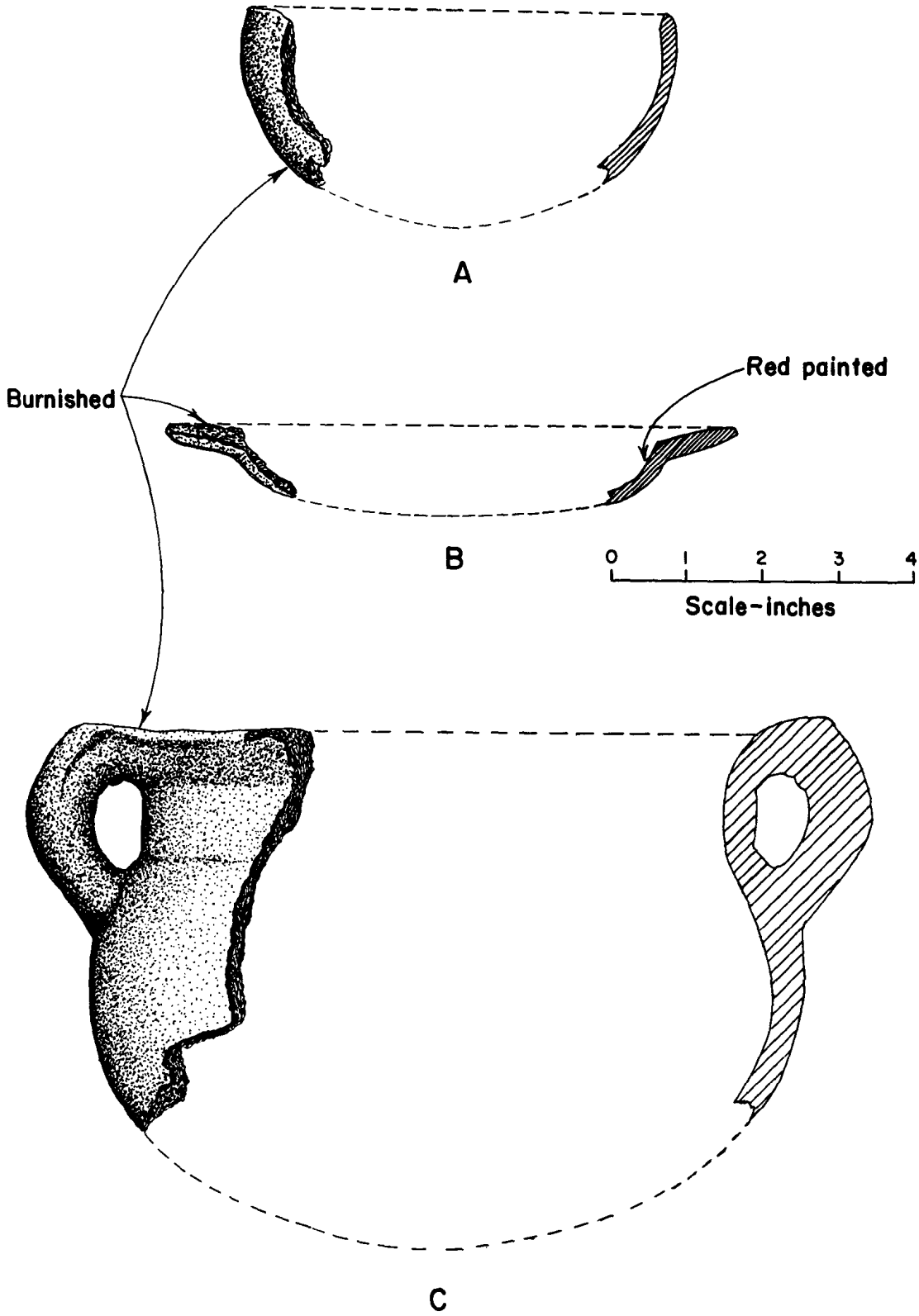
The diamond motif (Fig. 56), represented by four sherds from the American midden, and two from the British, is not illustrated in either of Donald Towner's books on creamware (1957;1965). It was,

Vol. 100 [1776-1784]:373,W.P.A. Typescript, Charleston County, South Carolina Probate Court; *South Carolina Gazette*, April 11, 1774; Brad Rauschenberg, personal communication). It is interesting to note that the Camden factory of Bartlam was said to be turning out "Queen's and other Earthen Ware...which is equal in Quality and Appearance and can be afforded as cheap, as any imported from England" (*South Carolina Gazette*, April 11, 1774).

Although none of the South Carolina made creamware was found at Fort Moultrie, it has been found on other fort sites of the Revolutionary War Period in South Carolina, at Ninety Six, Camden, and at Fort Watson (Ferguson 1973; South 1972; Strickland 1971). Its absence at Fort Moultrie may reflect the lack of close ties to Camden, where the ware was being made, with its presence at Ninety Six and Fort Watson revealing more direct contact with British headquarters at Camden. The presence or absence of this South Carolina made creamware on sites of the Revolution may well become an important means for interpretation relative to its source in Camden, and its limited time frame of ca. 1770 to 1781.

Colono-Indian Pottery from the American and British Midden Deposits

In the American midden deposit at Fort Moultrie a total of 617 sherds of Colono-Indian pottery was recovered along with the European ceramics, constituting 37% of all ceramics recovered (Fig. 51). From the British midden deposit in the moat a total of 141 sherds, or 38% of all ceramics recovered was Colono-Indian pottery. Since the same relative amount of this ware was recovered from the two deposits we can suggest that whatever cultural pattern produced the one deposit likely was operating when the other deposit was made. Colono-Indian



Colono-Indian Vessel Forms
from Fort Moultrie
1776-1782
(38CH50)
Figure 53

pottery was named by Ivor Noël Hume in 1958, and refers to Indian made ware often utilizing inspiration from European forms (Noël Hume 1962).

The paste characteristics from the collection from Fort Moultrie allow a division of the ware into three varieties on this attribute alone. These are a non-tempered paste with a few organic inclusions, a sandy paste that may indicate intentional sand tempering, and a fine micacious paste, apparently a type described by Baker (1972) as pipe clay. The surface of the ware is highly burnished, and the color varies from gray, to buff, to orange, to glossy-black. Three forms are present in the Fort Moultrie collection, hemispherical bowls, a bowl with a flattened, everted rim, and a form apparently in imitation of legless iron pots, complete with round, loop handles (Fig. 53). There are some examples with red paint on the interior of the vessel. The lips of the rims are usually smoothly burnished, but some have been notched.

Steven G. Baker has recently presented a summary of Colono-Indian pottery and has concluded that in South Carolina it is primarily a Catawba Indian related phenomenon (Baker 1972). He points out that it has been found at Ninety Six in a post 1783 context, and at Camden by Robert Strickland in a 1780 context, including red painted examples. This is entirely in keeping with the discovery of the ware at Fort Moultrie, with the exception that at Fort Moultrie there appears to be an absence of flat bottomed forms.

Baker cites references to Catawba Indians making pottery in the Charleston area for sale to Negroes in the early nineteenth century, and that they decorated their ware with colored sealing wax, and made it in great abundance (Baker 1972:14). Noël Hume suggested that the ware was

used by slaves in the eighteenth century (Noël Hume 1962:12). With these comments in mind it is interesting to note that it was Negro laborers and mechanics who built Fort Moultrie in 1776, and a large number were on hand for that purpose (Moultrie 1802:I,123-24). In July of 1776, William Moultrie asked for 200 pairs of shoes for these Negro laborers, "for the poor devils...are quite unshod" (Moultrie 1802:I,173). With this large a number of Negroes on hand it is quite likely that they had with them some of the Colono-Indian pottery. With the change from American to British control of the fort in 1780, the presence of Negroes may well have continued, thus accounting for the high percentage of Colono-Indian pottery in both midden deposits.

A suggestion to be considered in studies of Colono-Indian pottery is the high degree of similarity between it and pottery being made today in West Africa. The correspondence is so great that a consideration of African relationships is suggested (Richard Polhemus, personal communication).

Another possible explanation is the presence of Indians with both the American forces and the British when they captured Fort Moultrie and Charleston. In 1780 the British had with them in Savannah, 300 Cherokee Indians, and 1000 more were expected to join in their effort against the Americans (Uhlendorf 1938:157). Cherokee Indians had been with the British in numbers as large as 500 strong since 1779 in Savannah, and were an apparent fixture with the British army (Moultrie 1802:I,334,430,442,214,224-25). From Baker's analysis it appears that there is little likelihood that Colono-Indian pottery is Cherokee in origin. A body of 90 Catawba Indians, were with the Americans according to a message from William Moultrie to General Lincoln of May 21, 1779,

anyone with a few pennies to spend for a pot. A low socio-economic group that may well have taken advantage of such an opportunity to buy Catawba pottery from the Charleston markets were the enlisted men of both the American and British armies. The tin cup and plate were used by the Revolutionary War soldier to transfer his food from the iron mess pot to his stomach. He may well have supplemented this equipment on permanent type fortifications such as Fort Moultrie, by Catawba pottery bowls and cooking pots made in the form of the less easily obtained iron pots (Moultrie I:213; Francis Lord, personal communication). The presence of only two basic forms, the bowl and the pot, represented in Colono-Indian ware from Fort Moultrie tends to support this interpretation.

It is suggested therefore, that the Colono-Indian ware recovered from the American and British midden deposits at Fort Moultrie represents Catawba Indian pottery acquired by both American and British enlisted men, during their tour of duty at Fort Moultrie. When broken, the pottery was discarded in the midden deposit, along with the broken dishes of British and European manufacture discarded by the officers.

One-Hole Bone Button Discs from the American and British Midden Deposits

A total of 117 one-hole bone discs and a single three-hole button were recovered from the British and the American midden deposits (Fig. 52). Accompanying these bone discs were 480 fragments of bone, primarily scapula and ribs, which were the scraps left over from the process of cutting the discs (Fig. 52). This large deposit of bone discs and fragments from their manufacture is characteristic of eighteenth century contexts at Fort Moultrie, and of a number of other Revolutionary War

but since Moultrie said he always used twice the number he actually meant in correspondence with Lincoln, for security reasons, we can perhaps assume only 45 Catawbas were meant (Moultrie 1802:I,419). Some of these Catawba Indians may well have been at Fort Moultrie between 1776 and 1780, and possibly were captured along with the garrison in 1780 (Moultrie 1802:II,84). This seems somewhat unlikely, though, since most of the garrison had moved to Charleston before the surrender at Fort Moultrie (Moultrie 1802:II,79).

From these data regarding Catawba Indians assisting the American forces as scouts, we might assume they may have been directly responsible for the Catawba type Colono-Indian ware recovered from the midden deposits at Fort Moultrie. From Baker's analysis of the Colono-Indian ware, there is not necessarily a direct on-site connection between the Catawbas and this ware, since they were making it in large quantities and selling it to anyone who would buy it, including Negroes (Baker 1972:14).

It appears then, that the Colono-Indian pottery found in the American and British midden deposits may well have been deposited there by some group that was present during both the American and the British occupation periods. One good candidate for such a group would be Negroes who may have been on hand throughout most of the American occupation period to assist with the continuous construction of the fort, and who may have been captured with the garrison when the British took the fort in 1780. Alternatively, perhaps the British brought their own Negroes with them.

A more likely interpretation for this pottery would be that Catawba pottery was in the Charleston area during both the American and British periods of occupation as cheaply available wares, to be purchased by

Period Sites (Hanson and Hsu 1974; Calver and Bolton 1950; Figure 39, this report).

The interpretation of these bone discs has been that they were covered with cloth and sewn onto garments using a cloth cover to fasten them (Calver and Bolton 1950:44). This seems to be a reasonable suggestion. The interpretation of their function though has not yet been demonstrated archeologically. The question is raised, therefore, as to the validity of this interpretation of one-hole bone discs, manufactured on Revolutionary War military sites. Perhaps they are not buttons at all.

With this question in mind a comparison of the metric size of metal buttons with that of the bone discs was undertaken under the hypothesis that a correlation in size may indicate a functional similarity between the bone discs and the metal buttons. When this comparison was graphically plotted, the hypothesis was negated in that there was an inverse ratio found between the major size represented by metal buttons, and that for the bone discs (Fig. 54).

The British and the American midden deposits were combined for this analysis, and several interesting results emerged. The majority of the one-hole bone discs is between 12 and 16 mm., with the major number peaking at 14 mm. The metal buttons, on the other hand, cluster between 15 and 18 mm., with the peak at 17 mm. From the graph (Fig. 54) it is clear that there is an inverse ratio between the size 14 mm. bone disc and the size 17 mm. metal buttons, suggesting that metal buttons served a different function than that served by bone buttons. This function may not necessarily have been so exclusive that the discs did not serve at all as buttons, but that they may have served in different

areas on clothing than did the metal buttons. It is suggested then, that the metal buttons served to fasten waistcoats and uniforms, whereas the bone discs functioned to fasten shirts, pants, and undergarments. However, more historical data are needed on these items to verify this hypothesis. Bone discs are very likely also represented by the cloth-covered buttons seen on the coats and waistcoats of many paintings of eighteenth century gentlemen.

A second peak in metal button size is seen to occur at 24 mm., with sizes 23 through 28 mm. occurring totally outside the range of size for any of the bone discs recovered from Fort Moultrie (Fig. 54). This suggests that large metal buttons served a different function than smaller metal or bone buttons. The former were probably to fasten great coats.

A third result of the analysis graph in Figure 54 is that the 10 and 11 mm. buttons occur in stratigraphic control Trench 4 and 5,D, E,F, & G, dating in the early years of the nineteenth century. These sizes are not seen in a Revolutionary War context at Fort Moultrie, and are of a nineteenth century context. This may be simply that a cutting bit of such small size was not on hand at Fort Moultrie in the Revolutionary War Period. It may have a much broader significance relating to the evolutionary development of bone disc size. If so, it could be useful as a chronological marker for the early nineteenth century provided further data support this observation.

Another observation relating to the nineteenth century bone discs from Fort Moultrie is the fact that none is larger than 19 mm. This, too, may have chronological significance when supported by similar observations from discs from tight archeological contexts.

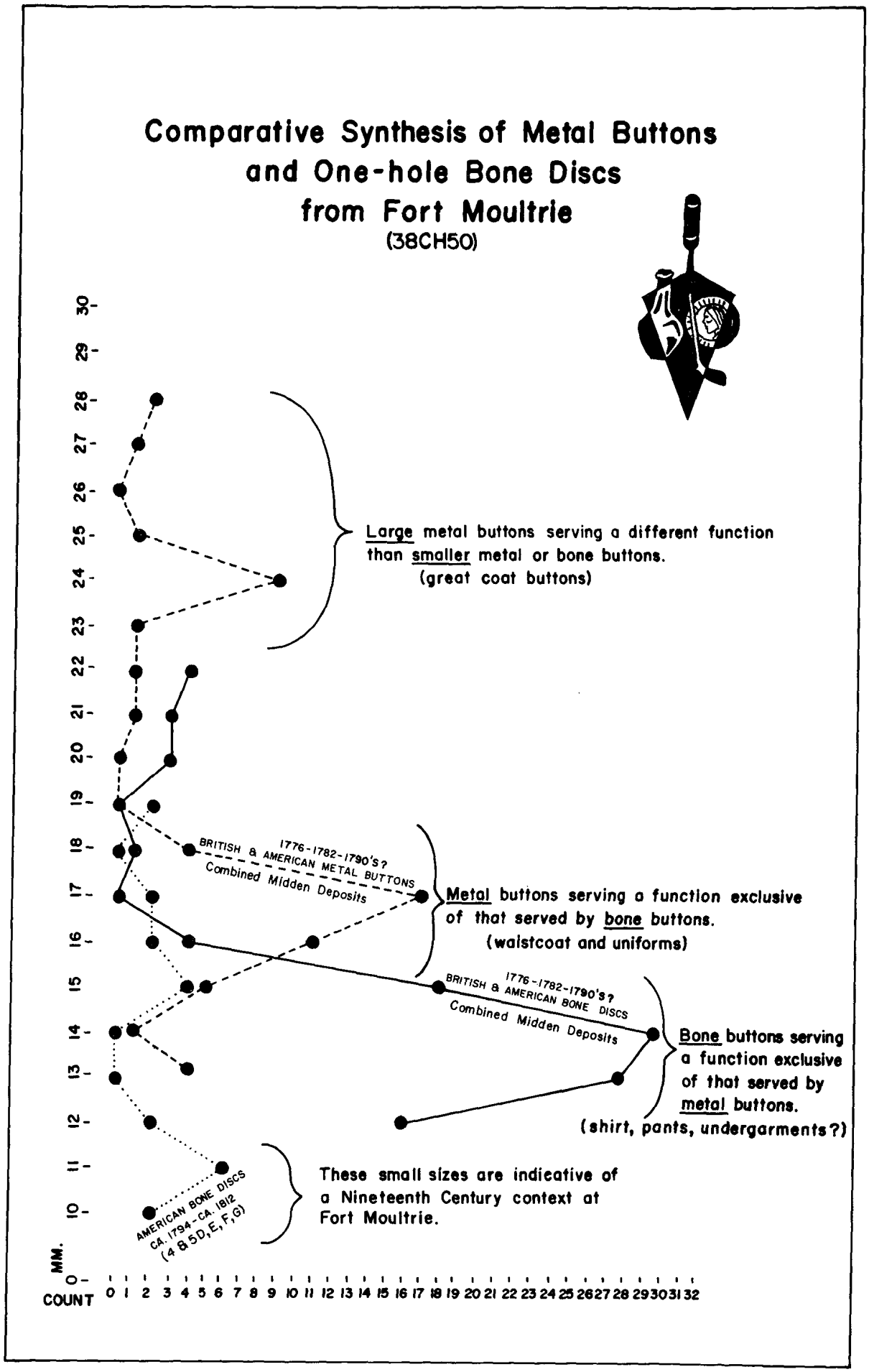

Comparative Synthesis of Metal Buttons
and One-hole Bone Discs
from Fort Moultrie
(38CH50)
Large metal buttons serving a different function than smaller metal or bone buttons.
(great coat buttons)
BRITISH & AMERICAN METAL BUTTONS
1776-1782-1790's?
Combined Midden Deposits
Metal buttons serving a function exclusive of that served by bone buttons.
(waistcoat and uniforms)
BRITISH & AMERICAN BONE DISCS
1776-1782-1790's?
Combined Midden Deposits
Bone buttons serving a function exclusive of that served by metal buttons.
(shirt, pants, undergarments?)
AMERICAN BONE DISCS
CA. 1794-CA. 1812
(4 & 5D, E, F, G)
These small sizes are indicative of a Nineteenth Century context at Fort Moultrie.
MM.
COUNT

Figure 54

The question might well be raised as to why we do not simply accept the fact that these discs are buttons and proceed on that assumption. Some colleagues have suggested that it is obvious that they were used with a brass or copper wire eye through the central hole. This is an interpretation based on logic, and not on archeological data, since no discs, with such a wire eye in place, have been reported archeologically. The possibility is equally valid that discs were *never* used in such a manner with a wire eye. The concept of a wire eye in a central button hole was known at the time the bone discs were being made, as demonstrated by the one-hole button *backs* found in eighteenth century contexts along with the one-hole bone button discs (South 1964:116, Type 4). These Type 4 button backs are frequently found with a wire eye in place, but no bone discs that do not have the rabbeted edge to receive the domed metal face of the button have been found with the wire eye (South 1964:116). This difference in typological association between the bone *backs* of known buttons, and the bone *discs* clearly points to a different *functional* use of the two classes of artifacts. This is not to say that the bone discs may have not served as buttons covered with cloth, but merely to indicate that the method of attachment being different, may well imply a different functional use. The difference between metal buttons or cloth-covered discs to be viewed, and those used on underclothing, not to be viewed, is worth consideration.

If we assume that the bone discs are indeed buttons, perhaps attached to coats, pants, shirts or underclothing, the question arises as to why they are found so often in a military context of the Revolutionary War Period. It is also difficult to see the officers directly involved

in making such discs. We might assume, therefore, that it was an "industry", that was carried out on Revolutionary War Sites by the enlisted men, or possibly by militia units attached to such sites.

In some instances such discs may well have functioned as buttons, as indicated by the two holes drilled in one example from the Fort Moultrie midden, producing a three-hole button. This, was evidently not a standard practice, and is an exception, apparently representing a case when a one-hole disc was pressed into service as a button, thus suggesting a different use for the mass of such discs recovered with only one hole.

Another fact should be mentioned here, and that is the intrusive button with four holes recovered from the midden in area 32E (Fig. 50). This is a button typically associated with nineteenth century contexts, and not yet found in a clearly Revolutionary War context where good control has been demonstrated (South 1964:121, Type 20). Based on our present data, the presence of such four or five hole buttons is clearly a sign of a nineteenth century context, and in the case of this button, the 11 mm. size also is indicative of this fact, as seen in the analysis graph of button sizes in Figure 54.

In regard to historical references to buttons, we find that in 1782 Peter Horry wrote to General Marion asking for "coarse buttons, large and small", along with coarse linen for pants, and "shirt buttons" (Gibbes 1853:II,196). The large and small coarse buttons may well have been cast metal buttons, but the "shirt buttons" could well be the bone one-hole discs.

The presence of bone discs and the mass of blanks from their manufacture found on Revolutionary War Period military sites are obvious indications of what might be termed an enlisted man's "industry".

No bits for cutting the discs were found at Fort Moultrie, but such bits have been found by Calver and Bolton (1950:53), and at Fort Stanwix by Hanson and Hsu (1974:154). The one hole is a result of the central pivotal guide point of the bit, and is not functionally related to the use of the disc, but rather to its production. Therefore, when a two-hole button was desired to be made from such a disc, a three-hole button was the result, one such example being found in Layer 48E at Fort Moultrie. The absence of three holes among the other bone discs would clearly point to the use of the bone discs not being related to their being sewn onto garments using two holes as a means of attachment. The single hole could have served as a means of attachment with a knotted thread run through the central hole, but no clear evidence for this has yet been demonstrated.

The presence of bone discs and the blanks from their manufacture were seen as an indicator of a Revolutionary War context at Fort Moultrie. The only exception to this rule was seen in area 58D, which apparently represents a deposit from around 1800, during the period of the Second Fort Moultrie on the site. This and other Second Fort Moultrie midden deposits from the 1794 to 1804 occupation on the site included no four or five-hole buttons, clearly indicating that this type button had not appeared, at this site at least, by this time. After the War of 1812, however, they were present, as demonstrated by the stratigraphic data from Fort Moultrie (Fig. 61).

Synthesis of Gunflints, Percussion Caps, Cartridge Cases and Bullets from Stratigraphic Trenches 4 & 5, and the American and British Midden Deposits

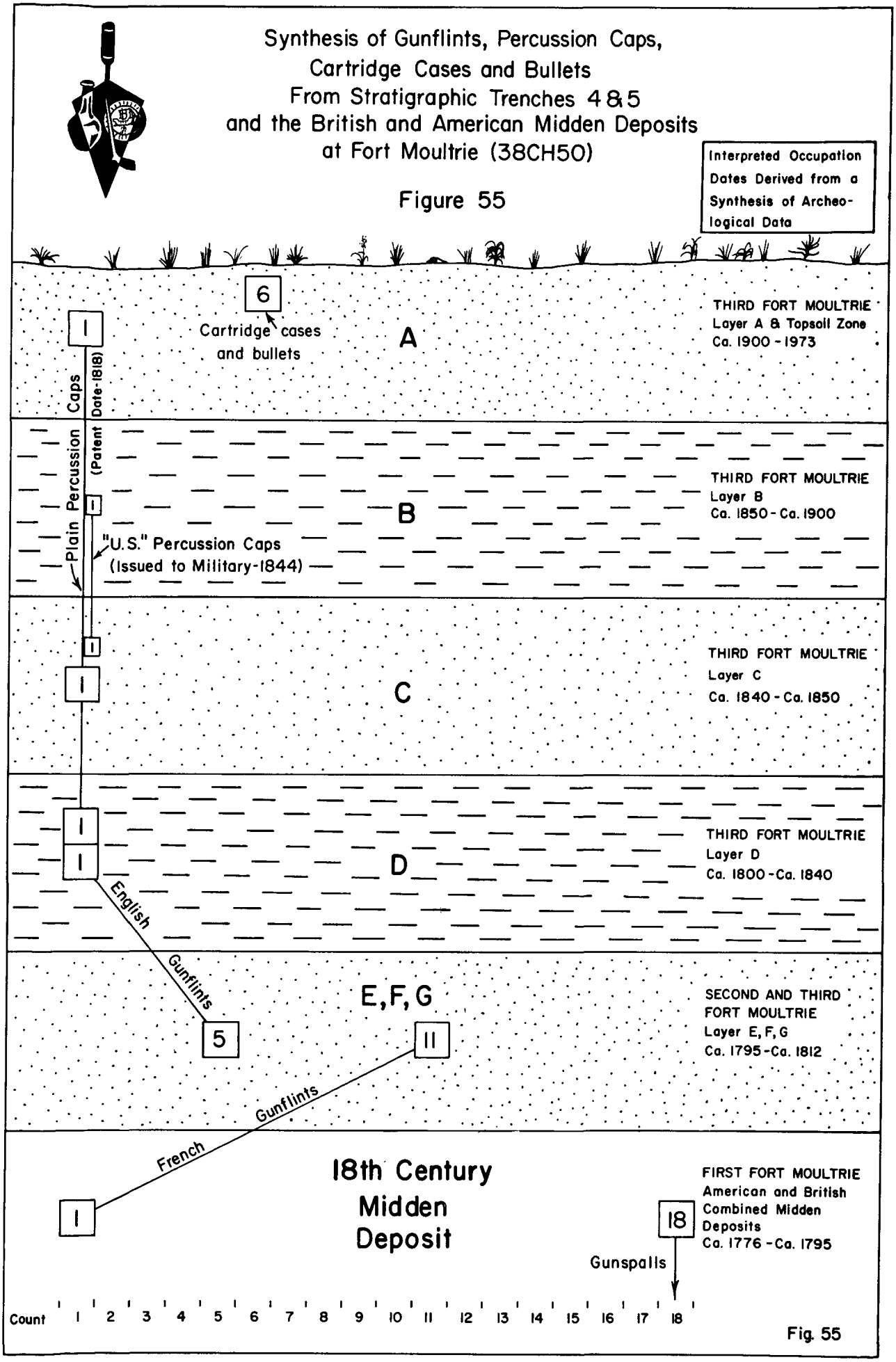
The gunflints from the American and British midden deposits were combined for purposes of synthesis study, with 18 gunspalls,

and a single French type gunflint constituting the entire collection (Fig. 55). The typological description of gunspalls and French, and English gunflints, used by Ivor Noël Hume (1970:221), was used in this study. The gunspalls may well be the results of English manufacture (Noël Hume 1970:219), with the gunspall being replaced by the square English blade gunflint after the Revolution.

The gunflints and gunspalls from the American and British midden deposits have been compared with those found in the stratigraphic Trenches 4 and 5 in layers D,E,F, and G (Fig. 55). Also included in this synthesis statement are plain and "US" stamped percussion caps, cartridge cases, and bullets (Fig. 55), from the stratigraphic control Trenches 4 and 5. The chronology used for the synthesis is derived from the chronological framework provided by means of the buttons, ceramics, and other artifacts as outlined in the synthesis in Figure 60, which is discussed in a separate section of this report.

From the synthesis in Figure 55, it is obvious that at the time of the Revolution the Americans and British were discarding primarily gunspalls, with only one French gunflint being found in the deposit. When we look at the collection from Layers E,F, and G in Trenches 4 and 5, representing an archeologically determined occupation period of from around 1795 to 1812, we see that there are 11 French gunflints, no gunspalls, and 5 English gunflints present (Fig. 55). In Layer D, with an archeologically determined occupation period of from around 1800 to about 1840, we see the last gunflint found in this stratigraphic trench, a single English gunflint (Fig. 55).

From this comparative synthesis we might suggest a sequence from gunspalls, to French gunflints to English gunflints from the period


Synthesis of Gunflints, Percussion Caps, Cartridge Cases and Bullets From Stratigraphic Trenches 4 & 5 and the British and American Midden Deposits at Fort Moultrie (38CH50)
Figure 55
Interpreted Occupation Dates Derived from a Synthesis of Archeological Data
6
Cartridge cases and bullets
A
THIRD FORT MOULTRIE
Layer A & Topsoil Zone
Ca. 1900 - 1973
Plain Percussion Caps (Patent Date-1818)
B
THIRD FORT MOULTRIE
Layer B
Ca. 1850 - Ca. 1900
"U.S." Percussion Caps (Issued to Military-1844)
C
THIRD FORT MOULTRIE
Layer C
Ca. 1840 - Ca. 1850
D
THIRD FORT MOULTRIE
Layer D
Ca. 1800 - Ca. 1840
English Gunflints
E, F, G
SECOND AND THIRD FORT MOULTRIE
Layer E, F, G
Ca. 1795 - Ca. 1812
5
11
French Gunflints
18th Century Midden Deposit
FIRST FORT MOULTRIE
American and British Combined Midden Deposits
Ca. 1776 - Ca. 1795
18
Gunspalls
Count 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Fig. 55

of the Revolution to the second quarter of the nineteenth century (Fig. 55), which is the known historical sequence. There are two types of percussion caps present, plain ones, and those with "US" impressed into the top of the cap (Fig. 55). Percussion caps were patented in 1818 (Moore 1963:25), and we might assume that these are the plain ones. They were first issued to the military forces in 1844 (Serven 1964:66), and we might assume that the specimens marked with the "US" are of the post-1844 period.

We see in Figure 55, that a single percussion cap of the plain type was found in each of the Layers C,D, and A, covering a time span from ca. 1800 to the time of excavation in 1973. However, the type marked with "US", was only found in Layers B and C, suggesting a more restricted time period of use, around 1840 to around 1900. From the data we can conclude, therefore, that plain percussion caps were used from sometime after 1800, until around 1900, with those marked "US" probably being introduced sometime after 1840 and used until around 1900. The latter was probably a military type associated with the United States Government. Cartridge cases and bullets from them were found only in Layer A, and the layer above it, the topsoil zone, representing the period from around 1900 to 1973 (Fig. 55).

From this synthesis of the data relating to gunflints, gunspalls, percussion caps, and cartridge cases and bullets, we find that the Fort Moultrie Site has provided us with a sequence of these items as follows: gunspalls, to French gunflints, to English gunflints, to percussion caps, to cartridge cases and bullets, covering a time period from 1776 to 1973. We certainly do not have a one-to-one correlation here between our knowledge of the evolution of small arms firing mechanisms

FIGURE 56

Some Artifacts from Fort Moultrie

A - A copper strap or collar fastener from the Second Fort Moultrie midden deposit.

B - A metal cutlass guard from the British context.

C - An ax head from the British context.

D - Top: Diamond pattern creamware sherd from Camden, South Carolina.
Bottom: Diamond pattern sherd from the British context at Fort Moultrie.

E - Iron eye and ring, possibly for a naval gun carriage, from the British context.

F - Blumenkubel tray fragment of Rhenish stoneware from the American context at Fort Moultrie. This flower pot tray was thrown onto the berm of the First Fort Moultrie during the American occupation of the site (Noël Hume, Audrey 1974:54,59).

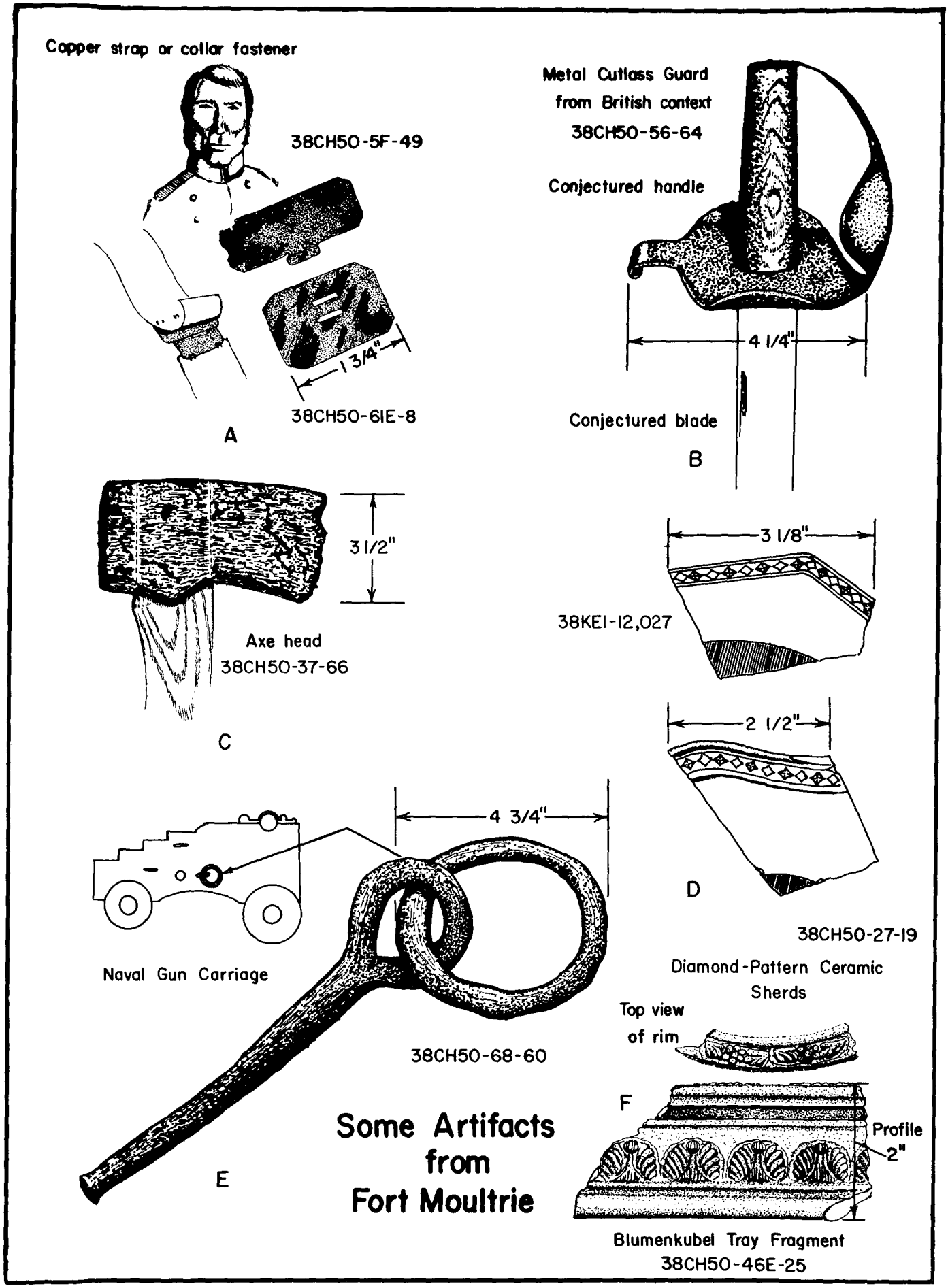

Copper strap or collar fastener
38CH50-5F-49
1 3/4"
38CH50-61E-8
A
Metal Cutlass Guard
from British context
38CH50-56-64
Conjectured handle
4 1/4"
Conjectured blade
B
3 1/2"
Axe head
38CH50-37-66
C
3 1/8"
38KEI-12,027
2 1/2"
D
38CH50-27-19
Diamond-Pattern Ceramic
Sherds
4 3/4"
Naval Gun Carriage
38CH50-68-60
E
Top view
of rim
F
Profile
2"
Blumenkubel Tray Fragment
38CH50-46E-25
Some Artifacts
from
Fort Moultrie

Figure 56

and the archeological record, but we do have a stratigraphic sequence clearly revealing that one type of item followed the other through time as represented by archeological context and stratigraphy. This has been demonstrated on the basis of data that would certainly not be considered statistically impressive from a quantitative point of view, but is clear-cut as an archeological synthesis. The synthesis of these artifact classes has demonstrated that patterning of material objects in the archeological record reflects the patterning responsible for the archeological record. Such patterning of the material remains of culture, even when based on small samples such as are seen in this study, lend themselves well to the type of synthesis undertaken here.

The question might be raised as to why we have demonstrated from archeological data, a sequence of relationships between artifact classes that is well documented. The answer is that it is *because* we know the historical development of gunflints to percussion caps to cartridge cases that we must demonstrate that the techniques we are using do produce predictable results, so that when such historical control is not available, we will continue to be able to make reliable and valid statements relative to our data. *If we rely too heavily on our historical knowledge for the interpretation of our archeological data, when we are called on to function in a strictly archeological context, we will be unable to do so with any degree of reliability.* If, however, we have approached our data from historic site excavations with a synthesizing framework, we will have built a body of useful data of interpretive value in further excavations.

Synthesis of Musket Balls by Calibre from Some Revolutionary War Forts in South Carolina

The twenty musket balls from the combined American and British midden deposits at Fort Moultrie have been compared with those recovered from four other fort sites of the Revolution from excavation records at the Institute of Archeology and Anthropology, and this synthesis is shown in Figure 57. This was done with the view of discovering some pattern within the various calibres from several sites that would allow for a synthesizing statement to be made based on archeological data alone.

The size of musket balls from these sites ranges from 26 to 72 calibre. One of the first observations that becomes apparent is that there is a high concentration of musket balls of large size between 60 and 72 calibre, constituting 79% of all musket balls (Fig. 57). The rifled balls are from Fort Watson, where Leland Ferguson has demonstrated through distributional analysis that they are from sniper fire from Americans using rifles (Ferguson, personal communication). This being the case, we might suggest that the smaller calibres are from rifles and pistols, while the major number, constituting the sizes between 60 and 72, are from muskets.

Another observation revealed from this synthesis chart (Fig. 57) is the fact that only two musket ball sizes were found on all five sites, the 60 and 70 calibre sizes. From this fact, plus the fact that there is an obvious frequency-cluster of calibres .68 through .70, and .60 through .63, would suggest that weapons firing bullets in these calibre ranges were important enough to be present on each site, and therefore may reflect a standard or popular size. Such weapons would require a larger bore diameter than .63 and .70 to allow for windage.

SYNTHESIS OF MUSKET BALLS BY CALIBRE FROM SOME REVOLUTIONARY WAR FORTS IN SOUTH CAROLINA

	Calibre	Fort Moultrie (American and British) (1776-1783)	Fort Watson (1780-1781)	Camden (1780-1781)	Fort Dorchester (1757-1781)	Fort Holmes (1780-1781)
	72	2				
	71		1			
	70	3	11	13	1	3
	69		11	67	1	
	68	1		41		
	67			7		
79%	66		1	2		
	65		5	9		1
	64		7	3		
	63		3	11		
	62		4	25		2
	61		1			
	60	2	3	1	1	1
	59					
	58					
	57				1	
	56	1	1			
	55		2	1	3	
	54		4 (1 rifled)		1	
	53		1		1	
	52		2	1		
	51		1 (rifled)			
	50	1	5			
	49					
	48		4 (1 rifled)			
	47		3			
	46		2			
	45		1			
	44		1			
	43		1			
	42					
21%	41					
	40	3	1			
	39					
	38		1			
	37					
	36	3	1	1		
	35			2		
	34			1		
	33					
	32	1				
	31		1	3		
	30	1	1	5		
	29					
	28	1				
	27					
	26	1				

Figure 57

This conclusion based on archeological synthesis can then be compared with documentation to determine if such a conclusion can be seen to have a documented parallel. Harold Peterson states that for the American made rifle of the Revolutionary War Period, the "calibres averaged .55-.60" (Peterson 1968:40).

William Greener (1858), in referring to the Brown Bess musket, states that the diameter of the bullet was .701, leaving more than three sizes for windage. He complains that "the stupid regulations of the service require 3 1/2 sizes of bore difference for windage" [in the Brown Bess] (Greener 1858:344).

Peterson (1968), states that British carbines are about .65 calibre, and that most Brown Bess muskets, as well as the Committee of Safety muskets were .75 calibre (Peterson 1968:30-35,40-45).

From this we learn that the archeological calibre frequency-cluster range of 60-63, and of 68-70, apparently represents the balls for the popular sizes of muskets and carbines of .75 and .65 calibre, used both by the Americans and the British forces. The fact that the lower range of the calibre size indicated archeologically by the musket balls is from 5 to 7 calibre sizes less than that of the gun barrels, reveals that windage was apparently not a critical factor with these weapons. This fact may well relate to the military firing procedures, tactics, etc. of the eighteenth century. Whereas the presence of rifled balls reveals that greater accuracy was required, such as that needed by a sniper.

One other observation is prompted by the musket ball synthesis in Figure 57, and that is the higher frequency of balls recovered at this site. This may, of course, relate to the recovery techniques utilized

by the different archeologists involved on the various sites, however, it is interesting to note that discounting this possibility, we might state from this chart alone, that considerable military activity was reflected at this site. From documentation we know that Camden was the headquarters for the British during the Revolution, and therefore such an interpretation would have been correct, based on musket balls alone (Kirkland and Kennedy 1905:214).

Questions might well be raised as to whether such conclusions can be taken to represent a pattern consistent enough to allow for prediction of this type. Perhaps the sample from the sites is not consistently obtained. Perhaps one sample represents a unique situation. Perhaps an adjustment should be made relative to the amount of area archeologically excavated on each site, etc. However, this approach emphasizing synthesis is seen as potentially a far more productive approach to arriving at cultural pattern than one focusing on the size and description only, of the 20 musket balls recovered from Fort Moultrie. Good description of artifact attributes is, of course, a basis step toward synthesis, but such description should be accompanied by an explanation of the purpose for the selection of the attributes being described. When enough data from many fort sites of the Revolution is synthesized we may well be able to make predictive statements of function, use, contextual associations, identification of military units, whether or not a battle was fought, the duration of the military involvement, etc., on the basis of seemingly meagre data. At present we are not able to do this type of prediction, in spite of a multitude of fort sites excavated by historical archeologists. Such pattern-predictive ability will certainly not emerge from a descriptive

dissection of artifacts alone, as witnessed by the site reports emphasizing such an approach. It is through synthesis of data *within* a site, then integration of this synthesis within a deductive model on the broader multi-site level, that we can begin to develop historical archeology to a higher level, pattern-predictive science through the examination of the material remains of culture.

Miscellaneous Artifact Data from the American and British Midden Deposits

In Figure 52, the contrast can be seen between the cut nails in the American and British midden deposits. A total of 1362 wrought nails was recovered from the American midden deposit, with only 36 cut nails. In the British midden deposit (in the entrance-protecting moat), there were 302 wrought nails, and *no* cut nails. The cut nails in the American deposit are seen as a result of a slight deposition of artifacts of the post-1794 (second fort) period of occupation, and/or a result of the intrusive 1860's abatis or other features that intruded into virtually all of the American midden areas excavated (Fig. 2). This presence of cut nails in the American deposit, along with the presence of some ceramic types, etc. have resulted in the American deposit being assigned a deposition date of ca. 1776 to ca. 1795+ (See section on ceramic chronology). With cut nails coming into existence around 1790, their presence in the American deposit, and total absence in the British deposit dating ca. 1780 to ca. 1782 (See section on chronology of the midden deposits) is entirely understandable (Noël Hume 1970:252-54).

In the table in Figure 52, it can be seen that there were 211 tobacco pipe stems recovered from the American and British deposits

at Fort Moultrie. Using the Binford Formula, a date of 1736.8 is determined, which is in keeping with what we might expect from a deposit dating at the time of the Revolution (Binford 1961:108; South 1962:24), since the formula is seen not to work on sites of this period, consistently producing dates too early. It is interesting to note that when a date for each of the deposits is obtained, the date for the American deposit is 1736.3, and for the British deposit 1745.1. When we add forty years to each of these dates we have a date of 1776.3 for the American deposit, and 1785.1 for the British deposit. Such an adjustment produces pipestem formula dates more in keeping with what they should be according to the documented data, but this is certainly not a statistically recommended approach. However, as more documented sites of this period are excavated, the Binford pipestem formula dates can be compared with the known documented dates, and perhaps an index date of +40 years or a similar figure can be found to be applicable to the Binford Formula when used on such sites.

Seven marked pipe bowls and fragments were recovered from the American and British deposits, and these are outlined in a table in Appendix III. No diagnostic data of synthesis value emerged from these bowls except the fact that burnished and rouletted attributes characteristic of Dutch pipes are seen on some of the examples (Walker 1971: 63,64,71,90). A few fragments of rouletted pipe stems were also recovered in this British-American context, and are also thought to be of Dutch origin (Walker 1971:92,108).

Wine and case bottle fragments were recovered in some quantity (Fig. 52), but no examples were whole enough to use the Carrillo Formula for dating the wine bottles (Carrillo 1974). The wine bottle

fragments do reveal, however, that they were from the cylindrical form of the 1760's through the 1780's (Noël Hume 1970:67,68).

One ceramic type is of particular interest, and has not been discussed in the prior synthesis of the ceramics from the American midden deposit. This type is represented by fragments of a Rhenish stoneware tray for a flower vase of pedestal form known as a *Blumenkubel* (Noël Hume, Audrey 1974:54,59) (Fig. 56). This sprigged salt-glazed stoneware tray fragment was found in the "E" layer of Trench 46, where it was part of a midden deposit apparently thrown onto the berm of the First Fort Moultrie, just north of the north parapet wall (Fig. 2). Its temporal association is apparently the same as that determined for the American midden deposit, judging from the associated ceramics, which would place it in a time period from around 1776 to 1795+. The sherd is similar in character to that shown in Audrey Noël Hume's Plate 38 (1974:59), which is from the John Custis Site, from a context ca. 1780 (Noël Hume, personal communication). It is interesting to note that niceties such as *Blumenkubel* trays were among the furnishings of the men at the First Fort Moultrie. Apparently officers had time for beautification of their surroundings with flowers in ornamentally sprigged flowerpots of stoneware from the Rhineland.

Another interesting object from this same midden deposit (46E), is a cast pewter button with a plain face, but with the relief initials "P N" on the back, also dating from the 1776 to 1795+ context.

Synthesis Listing of Artifacts from the American and British Midden Deposits

The emphasis throughout this report has been on the synthesis of data as the most productive of useful information to emerge from

historic site excavation. Artifact classes productive of temporal, architectural, functional, cultural, archeological or interpretive value have been dealt with in a synthesizing rather than an analytical manner in keeping with this approach. The following listing of artifacts by group continues this emphasis. The grouping is done according to the following: "Supplies", "Building Hardware and Materials, and Construction Tools", "Weapons and Military Items", "Furniture", "Clothing", and "Subsistence". Also included is a list of objects considered as intrusive into the American midden context, as a result of the mid-nineteenth century intrusive features.

The grouping of artifact classes might well be along other lines than that proposed here, such as "recreation", "food preparation", "storage", "hardware", etc., and the number of items in any one area would naturally vary with the classifactory designation. There will always be room for discussion as to the placement of a particular item within a group relative to the contextual point of view of the classifier. For instance, lead cames from windows would normally be placed in "Building Materials", but when a document indicates a function for cames as being a source of lead for musket balls, they can then be placed in a "Military Items" classification. Many items can thus be placed in one or more groups, and this has been done in some instances in the lists that follow.

Such listing should be adequate for general comparative purposes and if more specific data is needed for analysis of a particular class of artifacts, such data can be obtained according to the dictates of the research design under which such investigation is being carried out, in the form of photographs, metric measurements, Xerox copies,

loan of the artifacts, etc. Comments are included only where these seem to be pertinent, with references to analytical studies in some instances. The items with an asterisk are those occurring the British midden deposit, those without are from the American.

Supplies

*barrel bands
*plain and engraved tumbler fragments
*wine bottle, French and English
*case bottles
*tobacco pipes, Dutch and English
*medicine bottles
*wine glasses
*ceramics
*Colono-Indian pottery
*mirror
*harness strap buckle
*pewter spoon bowl with "I P" in script on back of bowl (John Purvis was Captain of Rangers, and James Peronneau was a Lieutenant in the First and Second South Carolina Regiments of Infantry in 1775, Moultrie 1802:I,65). Catalog number: 38CH50-37-63. The initials were probably those of the owner of the spoon.

*octagonal "snuff" type bottles with cork in one, clear glass, apparently containing black powder when found, indicating they may have served as flasks for priming powder.

*iron pot
*flat iron
*two tined fork with bone handles
*bucket bale (William Moultrie drank grog from firebuckets passed along the platform during the battle on June 28, 1776, and said, "I never had a more agreeable draught than that which I took out of one of those buckets at the time"..."It was a very honorable situation"..."one continual blaze and roar" (Moultrie 1802:I,178-79).

*fire dog leg
*round iron griddle with flat tang, 8 3/4" diameter. (no legs)
split musket ball, for sinker for fishline?
chain link
slate pencil
pewter "bit" (counterfeit?)
pewter demitasse spoon
small glass bottle stopper
bone knife handle
copper spoon bowl fragment
iron fishhook

embossed lead sheet
limestone marble, 17 mm.
pewter spoon handle with "...on", probably London

This list of supplies suggests a number of activities that were being carried out by those responsible for the discarding of these items. The ceramics, wine glasses, tumblers, wine and case bottles, spoons, knives, and forks all relate to the consumption of food in a manner suggesting more elegance than might be expected from enlisted men (assuming a military context based on other data). Historic site archeologists have yet to demonstrate clearly that there is status related patterning in material culture in civilian situations. There are, though, enough data available on military behavior of the eighteenth century to suggest that the enlisted man carried with him upon enlistment such necessities as a canteen, a tin plate, and a tin cup, and that Oriental porcelain, English creamware, wine glasses, tumblers, and demitasse spoons were not a normal list of items carried in the Revolutionary War knapsack (Francis A. Lord, personal communication). This being the case, we might well attribute these items from the British and American midden deposits at Fort Moultrie to the officers. The Colono-Indian pottery, on the other hand, might well be associated with the enlisted men.

Containers such as barrels, buckets, iron pots and griddles reflect the storage and preparation of food. The iron pot was of considerable importance to the officers and enlisted men alike, being the primary means of food preparation. We get an idea of how many men one pot sometimes had to serve from William Moultrie who, on June 4, 1778, stated that, "one camp kettle to ten, twelve, or fifteen men is not enough nor one canteen to six or eight men" (Moultrie 1802:I,213). If William Moultrie was having to feed a dozen men from a single pot, and provide water for six men from a single canteen, we get the

impression that the American enlisted man was not abundantly supplied with the finer comforts of life.

The enlisted man may well have had tobacco pipes as well as the officers, but pewter spoons*, a flat iron, and fire dogs, certainly suggest a setting for officers rather than for the enlisted man (Francis A. Lord, personal communication).

*The pewter spoon with the initials "IP" scratched into the back of the bowl, apparently by the owner, has been mentioned above as possibly representing John Purvis or James Peronneau, American officers at the site. Other officers of the Continental Line were: James Parham, John Perroneau, James Perry, Joseph Pledger, John Potts, John Poyas, and Joseph Prescott (James L. Haynsworth, President, South Carolina Genealogical Society, Columbia, personal communication). Then there is the militia, and the British forces, any one of which may have owned the spoon.

One pewter spoon handle was impressed on the back with "...ON", which probably was the mark "LONDON", seen on pewter of the eighteenth century made by William Bartlett ca. 1740-1770, and by Thomas Winship of Newcastle, who went bankrupt in 1781, and by a number of other British pewterers (Cotterell 1970: 156,242,245,272,339). This mark was also used by Joseph Belcher, Jr., of Newport, Rhode Island and New London, Connecticut from 1776 into the 1780's (Thorn 1949:239). This information is interesting, but is also of low research value since it provides no new information to our understanding of chronology, function, or process, toward our search for understanding of culture pattern.

Building Hardware and Materials, and Construction Tools

*strap hinge
*hasp
*nails, (lathing, flooring, construction)
*spikes
*timbers of yellow pine
*bricks ca. 9" x 4 1/4 x 2 1/2"
*oyster shell mortar

*palmetto logs
*window glass
*copper nails
*eye bolt
*bolt with nut

*Ax head (Fig. 56)
*wrought tack with lead collar
*door key
*lead plug for fastening wood or metal to stone
iron screw
plaster from wall

iron staple
iron washer
lead window cames (for melting down to make bullets). When the British arrived in two frigates in May, 1776, the lead cames were taken "from the windows of the churches and dwelling houses, to cast into musket balls...(Moultrie 1802: I,140-41).

*spade fragment Audrey Noël Hume (1974:74) illustrates a virtually identical spade from a context of ca. 1780, and one is shown with William Moultrie in the painting by Chappel in Figure 1 of this report.

*adz
*nail punch
iron chisel, 4"

From this group of objects associated with construction, we can infer that structures of brick, palmetto logs and yellow pine timber were on the site, fastened with nails and spikes and oyster shell mortar. Plaster from walls, window glass, door hinges and keys indicate that some degree of refinement was involved in the construction. The ax, chisel, adz and punch were tools involved in such construction, but nothing would lead one to suggest a military construction is involved from these data alone. Were it not for the reference to the use of lead cames from windows in Charleston being used for making musket balls, the presence of this type window on a military fort site of this period would be puzzling (Davies 1973:78). The spade, of course, could be a gardening tool, or an important item for constructing fortifications, and without other data of a military nature it could not be placed in a military context. Since data of a military nature is present, it does relate to a fort construction point of view, and to the fact that on June 21, 1776, Charles Lee mentioned "hoes, spades, but no helves to them" in correspondence with William Moultrie during the construction of the fort (Moultrie 1802:I,160), and a spade is shown with William Moultrie in the portrait in Figure 1. Entrenching tools and axes were also mentioned on November 11, 1779 (Gibbes 1853:III,I), in regard to military construction needs.

*British Brown Bess musket barrel (Dr. Francis A. Lord, personal communication)
*frizzen for flintlock musket (Brown Bess) (Dr. Francis A. Lord)
musket sling eye of iron
*gunflints and gunspalls (see previous section for synthesis statement)
*British, brass butt plate for flintlock pistol (Dr. Francis A. Lord)
copper,gun thimble with tang
*black powder
*octagonal "snuff" type bottle of clear glass, with black powder, possibly used as a container for priming powder.
musket balls (See Fig. 57)
split musket balls
lead cames for making musket balls (See reference under "Building Hardware and Materials, and Construction Tools.")
*hand guard for an American cutlass (Peterson 1956:263) (Fig. 56)
bone handle for a cutlass
*eye bolt with ring in eye 11" x 1", with 5" ring (for carriage of gun, Fig. 56).
two solid shot cannon balls, 12 pounds, 4.4 inches in diameter
cast iron grape shot 50 mm.
*iron bucket bale
*military buttons, American, British, Loyalist (see synthesis section)

On military fort sites of the Revolutionary War Period excavated by members of the staff of the Institute of Archeology and Anthropology at Fort Holmes at Ninety Six, Charles Towne Redoubt, and Fort Dorchester, the interpretation of these sites as fort sites could not have been correctly made if based entirely on the artifacts. At Fort Moultrie, however, as witnessed by the variety in the above list of items relating to military use, it appears that a correct interpretation as to the military origin of the midden deposit could have been made, as was the case at Camden and Fort Watson.

The identity of the military units is revealed with the aid of the buttons (Fig. 50). The twelve pound artillery is indicated by the solid shot, and the gunspalls and gunflints, along with the musket barrel, pistol butt plate and musket balls clearly reveal the presence of small arms. The cutlass hand guard (Fig. 56), and the crude hand-made bone cutlass handle are thought to be American,

since it is by means of the degree of refinement that those cutlasses made in America are distinguished from British models from which the American examples were copied (Peterson 1956:263).

The "snuff" type bottles were surrounded by black powder when found, as was the musket barrel, and the association may well be fortuitous. However, if the bottles served as containers for keeping priming powder dry, in such a context they would have been serving a military function. This problem is one that is present regardless of what classificatory groupings are selected for synthesizing items of material culture, and only emphasizes the importance of contextual relationships and associations as opposed to the strictly analytical approach in which the objects themselves are stressed.

The artifacts reveal the presence of military units of infantry and artillery, with British, American and militia groups involved. Pistols, swords, muskets and musket balls imply military activity as well. These may seem obvious conclusions to draw from excavation at an historic fort site, but as was pointed out above, fort sites frequently do not reveal military artifacts sufficient to warrant the interpretation of the site as a fort without the accompanying architectural data. Even though in the case of Fort Moultrie we can at least functionally identify the fact of a fort likely being on the site from artifacts alone, we can hardly go far beyond this toward historical detail. The analysis of gunspalls, gunflints and musket balls and rifle balls has been presented in the previous section of this report.

Furniture

brass face-plate for drawer lock?
*iron door latch
brass upholstery tacks

From this meagre inventory of furniture related hardware we might well draw the conclusion that items of furniture were not well represented in the rooms occupied by the people who discarded this trash and garbage. In contrast, in midden deposits from civilian house and village sites many items of brass hardware from escutcheon plates, drawer handles, rollers, etc., to cabinet locks and hinges are recovered. Such items may perhaps be found to be an indicator of a military or civilian context for artifact deposits based on their absence or abundance. Many more observations along these lines will need to be made before we can arrive at valid generalized conclusions based on the occurrence of items related to furniture in an archeological context.

Clothing

*awl
*shoes (see Fig. 58, contrasting Revolutionary War shoes with those of the War of 1812.)
*buttons, bone discs (one-hole), three-hole button (Fig. 52 & 54)/
*buttons, metal, civilian, military, British American (Fig. 50 & 54).
*copper wire clothing fasteners, 1 1/4" & 1/2" sizes (hooks and eyes)
*copper buckle (Type 4, Abbit 1973:32), for shoe
brass buckles
iron knee buckle fragment
glass sleeve-link set
sleeve-link with "PRINCE W" and portrait in gold against a red background (Fig. 39)
lead bale seal with "7517
21
AI/A"

lead bale seal with "GANGES"

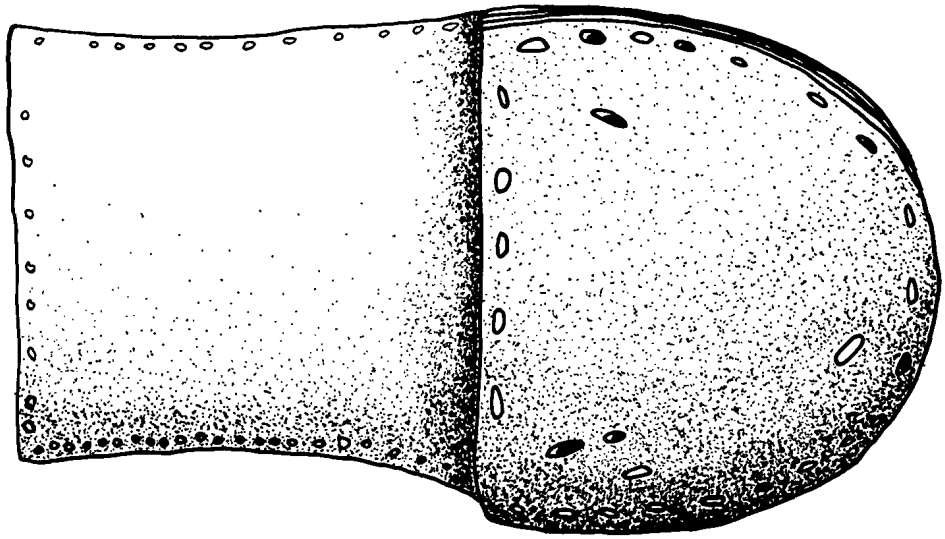
From contrasting the heel shape of the shoes recovered from the bottom of the fort ditch with those recovered from the canal area in

Trench 5F, we see a change in shape that may prove to be diagnostic (Fig. 58). The shoe fragments from the British midden deposit were apparently from boots, whereas those from the early nineteenth century deposit in 5F were from children's shoes as well as from adults (Fig. 58).

The buttons have been dealt with in special synthesis sections, and we find they reveal the presence of both American and British military occupations, with some civilian population apparently representing the militia. A bone disc "industry" was present on the site (see separate synthesis section on this), that may represent cloth covered buttons, probably used by the enlisted men.

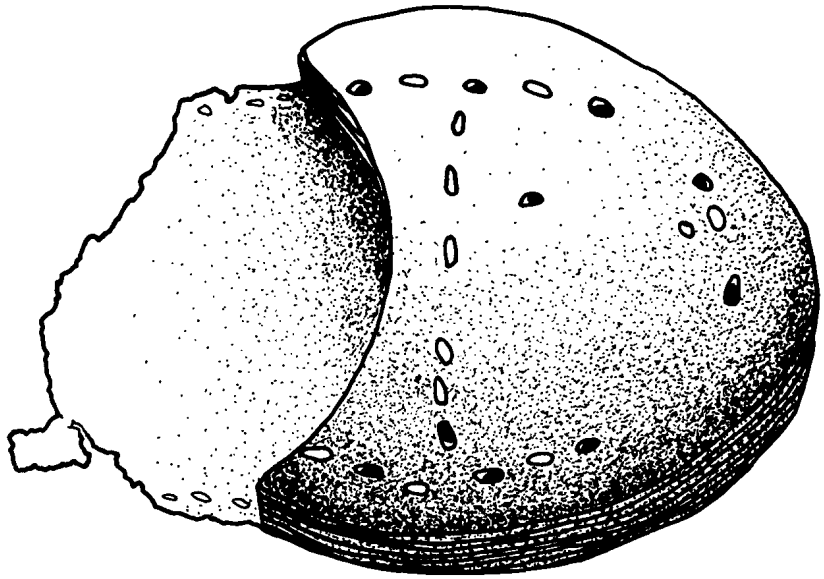
The presence of bale seals reflects the cloth bales or other merchandise on the site (Noël Hume 1970:269). Similar seals to those found at Fort Moultrie have been found at Fort Stanwix in New York in a similar time frame (Hanson and Hsu 1974). Such seals are also found on civilian sites, as might be expected.

From the archeological data dealing with clothing, we can determine some basic information relative to who was at the site, primarily through the button data as seen in a separate section of this report. Such data also furnished valuable temporal data, which, along with the ceramic chronology data, allowed us to assign interpreted occupation periods for the site based on archeology. However, the fact that we can say that the occupants of the site wore shoes, that the shoes were used with brass and copper buckles, and that clothing was fastened with hooks and eyes as well as buttons, and that cloth bales were present, from which they were likely making clothing using awls, does not tell us anything that we did not know about eighteenth century life.



A

Early Nineteenth Century Shoe Heel
Ca. 1794 - Ca. 1812
(38CH50-5F)



B

Revolutionary War Shoe Heel
Ca. 1776 - Ca. 1782 (38CH50-75)

Comparison of Shoe Fragments
From Fort Moultrie

Figure 58

Historical documentation provides us with abundant information relative to the clothing worn by the Revolutionary War Period soldiers and civilians, and in the following section some of this information is summarized, and contrasted with the information revealed through archeology.

Clothing of the American Troops in South Carolina During the Revolution

In 1778 the annual clothing issue for American troops was

> one coat, waistcoat and breeches of woolen cloth, one cap or hat, one blanket, four shirts, four pair stockings, and four pair shoes, two pair breeches of Osnaburgs or coarse linen, two waistcoats of the same, two leathern stocks and two leathern gaiters...(Gibbes 1853:II,68)

Besides this issue ordered by the General Assembly of South Carolina, there was to be a watch coat between each ten men, and each man was to have one-half pound of beef per day, and "full Continental rations". This official issue was what might be considered the ideal, however, not the actual fact, as we learn from General Nathaniel Greene in December, 1781, when he wrote to Peter Horry asking for cloaks, blankets, and anything else he had to clothe the troops under his command.

> All kinds of cloth we are in want of and in the greatest distress on the same account; near one half of our soldiers have not a shoe to their feet and not a blanket to ten men through the line.
> (Gibbes 1853:III,3,222-23).

This information is interesting from several points of view. For one thing it emphasizes the fact that historical documentation is highly variable in its content, and dependence on a single document may well produce a highly skewed interpretation, just as archeological data is skewed toward the items of material culture that have survived. Another

point of interest is the fact that in both the above references there is no direct mention of any item that was found archeologically, except shoes, and these are not usually found except in a below-water context. Thus we virtually have mutually exclusive data sets, a situation frequently seen in historical archeology.

The historical documentation of particular items recovered on an archeological site is of interest, of course, but interpretation relative to patterning of material culture is not dependent upon such documentation. To illustrate this point we will look at the following list of items relating to clothing of South Carolina troops at the time of the Revolution as revealed from the documents, and compare this list with the archeological data recovered from the Fort Moultrie Site. An asterisk indicates a correspondence between data.

HISTORICAL DOCUMENT	REFERENCE	ARCHEOLOGICAL DOCUMENT
*shoes		*shoes
coat		awl
waistcoat		*metal buttons
breeches		*bone discs (buttons?)
woolen cap		hooks and eyes
cap		*buckles (shoe)
hat		*buckles (knee pants)
blanket		sleeve-link
shirt		*bale seal (implies cloth)
stockings		
linen		
leathern stocks		
leathern gaiters		
watchcoats	Gibbes 1853:II,68	
overalls	Gibbes 1853:V,3,48	
blue flannel		
red flannel		
home spun	Gibbes 1853:II,147	

HISTORICAL DOCUMENT	REFERENCE	ARCHEOLOGICAL DOCUMENT
*twelve dozen large buckles		
*fourteen dozen of small buckles		
thirty weight of wool	Gibbes 1853:II,147	
six weight of thread		
soldiers clothing is:		
Russia drab		
coarse blue cloth		
coarse linen for pants		
*coarse buttons, large and small		
*shirt buttons	Gibbes 1853:II,196	

From this comparative summary of the items of clothing historically mentioned in these documents, dating from the period from 1778 to 1782, in the area of Fort Moultrie, by Americans, we see that there is a mention of most of the objects archeologically recovered, but the mass of documented items not seen reflected in the archeological document is such that an attempt to reconstruct an historically valid picture of Revolutionary War Period clothing worn by Americans at Fort Moultrie using a one-to-one correlation approach would be a foolhardy venture. The avenue for interpreting the archeological record most effectively has been spelled out in the introduction to this section where the synthesizing emphasis has been outlined, as well as the need for more studies concentrating on determing associated sets of material culture items reflecting specific behavioral activities. This study has only taken a tentative step in this direction. The viewpoint expressed here, however, is rapidly gaining momentum, and is appearing as basic to research designs of young historical archeologists, as exemplified in this recent statement by Richard Carrillo (1974):

> The proposals outlined above consist of high-probability statements rather than empirical generalizations and encompass a broad range of phenomena. From these phenomena will be derived more specific problems for analyzing and interpreting the various phenomena within more complex analytical frameworks. These phenomena will be isolated and tested in an attempt to reliably demonstrate and validate the total conceptual framework upon which the probability statements are based in an effort to further explain and more fully demonstrate the occurring processes of culture (Carrillo 1974).

Subsistence

From the American and British midden deposits over three hundred pounds of bone from meals eaten by those occupying the First Fort Moultrie were recovered (Figure 52). The bone was apparently broken by using an ax, since ax marks are seen on many of the fragments. This may well have been done to get at the marrow, and would not necessarily represent butchering techniques at the time the animal was killed. Dr. Robert L. Stephenson, Director of the Institute of Archeology and Anthropology, University of South Carolina, has conducted a general identification of the bone material, and from his examination thirteen animals are seen to be represented in the midden of the British and Americans at Fort Moultrie (Figure 59 and Appendix IV). These are the cow, deer, pig, bird, rabbit, goat or sheep, fish, turtle, horse, dog, rat, and raccoon.

Also in the midden deposit, and comprising a large part of the quantity of both the American and British midden material, were oyster and clam shell, with some conch and mussel. Fish bones, including drum and catfish were being utilized from the local area's resources. Peach seeds, watermelon seeds and walnut hulls were also recovered from the below-water contexts, where they had been preserved through the elimination of oxygen for two hundred years.

Synthesis of Historical Data Relating to Food at Fort Moultrie

The following is a summary of the documented record of food consumed by Revolutionary War troops, as encountered during the research on the Fort Moultrie project, and relates primarily to South Carolina troops from 1776 to 1782.

Date	Food	Reference
May 19, 1782	500 head of cattle	Gibbes 1853:II,175
April 13, 1782	rum, sugar	Gibbes 1853:II,163
April 19, 1782	coffee, sugar, rice	Gibbes 1853:II,169
April 22, 1782	poultry	Gibbes 1853:II,170
October 9, 1781	liquor, rum, sugar, wine, salt	Gibbes 1853:III,184
September 7, 1781	sweet potato	Gibbes 1853:III,145
September 9, 1781	brandy, salt, peach brandy, with gin and spirits scarce	Gibbes 1853:III,140
April 22, 1779	rice, "Meat he must provide daily on the road", corn, flour	Moultrie 1802:I,378
June 4, 1778	150 barrels of pork	Moultrie 1802:I,216, 218-19
1778	salt imported	Moultrie 1802:I,198, 211
June 9, 1782	coffee and sugar, mutton, veal, and poultry "are not soldiers' food", Marion to Horry	Gibbes 1853:II,187-88
November 14, 1778	500 head of cattle to be salted, and Indian corn for support of the troops, and "to supply Fort Moultrie".	Moultrie 1802:I,241
May 9, 1778	hogsheads of water for the troops	Moultrie 1802:I,414
May 7, 1780	Americans surrendered "40 head of black cattle, 60 sheep, 20 goats, 40 fat hogs"	Allaire 1780:1968:16
March 2, 1778	½ pound of beef per day, plus "full Continental rations"	Gibbes 1853:II,68

One of the most important pieces of information to come from this look at the documents regarding food for the Revolutionary War troops, is the fact that coffee, sugar, mutton, veal and poultry "are not soldiers' food,"according to Francis Marion, who had heard rumors that such fare was being furnished to soldiers, and was chastizing Horry over this point. This would leave pork and beef as the approved ration, and this is supported by the fact that while on the road each man was

said to need one-half pound of beef per day. Salted beef and Indian corn were needed for support of the troops at Fort Moultrie.

Since coffee, sugar and poultry as well as mutton, and veal were not soldiers' fare, we might also suppose that rum, liquor, wine, brandy, gin and spirits were also more for officers than for the soldier. From these clues, therefore, we might suggest the following fare for the officers as opposed to the enlisted men in the Revolutionary War American army.

Officers Fare

mutton	coffee	wine	salt
veal	sugar	brandy	rice
poultry	rum	gin	potatoes (sweet)
beef	liquor	spirits	corn
pork			flour

Soldiers Fare

beef	sweet potatoes
goat	Indian corn
pork	salt
	water
	rum?

This contrast between the soldier and the officer is an interesting one, but nevertheless is dependent upon historical references for the distinction. When we look at this list from the point of view of what we might expect to find in archeological examinations of the sites of the Revolutionary War Period, we find that we might expect to find bones from the following animals:

sheep
goat
chicken
cow
pig

If our deposits can be separated on the basis of a heavy concentration of beef and pork in one deposit, with poultry, sheep, pork

in another, then perhaps we might be able to postulate an officers' midden deposit as opposed to that of an enlisted man's midden deposit, but thus far no such contrast has been demonstrated. The other food items however, would not leave an archeological record, except in the case of the diagnostic containers some of the goods came in, such as wine bottles, case bottles, and barrels.

When Fort Moultrie was captured by the British in 1780 they also captured "forty head cattle, sixty sheep, twenty goats, forty fat hogs" (Allaire 1780;1968:16), and this gives us the information that domesticated animals were probably being kept in compounds.

Not mentioned at all in the records is the utilization of locally available wild animals and seafood, such as deer, rabbit, water birds, oysters, fish, clams, etc., which might well leave an archeological record in the earth. The archeological record would, therefore, be a far better indicator of the actual subsistence base for the Revolutionary soldier than the surviving documents that may well emphasize items of officers'fare rather than for the soldier.

Synthesis of Archeological Data Relating to Bone Refuse at the First Fort Moultrie

From the analysis of the bone refuse from the American and British middens at Fort Moultrie, it becomes apparent that a major source of food for both the military occupations on the site, was cow, deer, and pig (Figure 59, and Appendix IV). The importance of deer in the diet of the troops was certainly not indicated by the historical records, but appears to have been as well represented in the midden deposit as was pig (Figure 59). The cow, of course, was the most predominately

represented bone in the middens, and this was expected, based on the historical documentation indicating that beef was a major food for the enlisted man.

An important fact revealed through this analysis of bone is the degree of utilization of deer, and this, along with the presence of water bird, fish, turtle, raccoon, and oysters, clams, conch, and mussel, reflect a considerable utilization of the local environment for providing food for the troops at Fort Moultrie.

The bone from both midden deposits was split, and broken, but the American midden bone fragmentation was much greater than the British. The cancellous tissue had been exposed, and the surfaces used as abraders, according to the analysis conducted by Robert Stephenson (Appendix IV). He suggests these bones may have been used as hide grainers in preparing leather, and hides were certainly an item of value for many uses around a fort such as Moultrie. It is interesting that such tools were virtually absent from the British midden. This clearly indicates a different cultural practice between the two groups, and emphasizes, as did the buttons, that different cultural groups were responsible for the midden deposits.

The ribs of cows and other animals were split in many cases, and the cow ribs were used to make the one-hole bone discs, as were the scapula (Figure 39).

Although when Fort Moultrie was captured by the British in 1780, there were 180 head of cattle, sheep, goats and hogs surrendered by the Americans (Allaire 1780; 1968:16), the analysis of the bone from the midden deposits revealed that butchering of these animals apparently occurred elsewhere on the site, since head, hoof and tail parts were not present in the middens. The middens are seen then, as food

REFUSE BONE FROM THE FORT MOULTRIE MIDDENS

American Midden

Provenience	Raccoon (?)	Rat (?)	Dog	Horse	Turtle	Fish	Goat or Sheep	Rabbit	Bird	Pig	Deer	Cow
17E		3	16	5	11	14	8	23	47	160	196	752
17F		1	6		2	3	1	6	15	45	67	209
18E					1			2	5	18	14	57
18F					1	1		7	13	56	68	116
32E					6	3		8	5	72	70	103
33E			2	2	1	3		5		38	51	117
33F					2	13		8	6	132	93	274
48E					1	2		1	2	37	45	76
52F	3	1	5		2	12	14	16	12	123	145	406
67E	1				4			8	5	37	31	105
Total	4	5	29	7	31	51	23	84	110	718	780	2,215
%	.0	.1	.7	.1	.7	1.0	.5	2.0	3.0	18.	19.	54.0

Grand Total 4,057 = 100%

British Midden

27								3		10	17	64
37			4	2		3				27	34	139
56	1		7	2		3		2	4	57	85	238
68			3			1	2	4	2	17	30	94
75		2		1		3	4	9	6	41	39	60
Total	1	2	14	5		10	6	18	12	152	205	595
%	.1	.2	1.3	.5	0	.9	.6	1.8	1.2	15.	20.1	58.3

Grand Total 1,020 = 100%

Figure 59

refuse middens, and not as deposits of bones from butchering of animals.

There were only three fragments of sawed bones of pig recovered from the middens, and these were from the American midden deposit. Since sawed bones are not usually associated with the period of the Revolution, and since the American midden is seen to contain some objects from as late as 1795+, it is quite likely that these sawed bones were intrusive into the Revolutionary War Period midden deposit during the period of the Second Fort Moultrie, along with the cut nails and post-1795 pearlware ceramics.

Because of the difficulty of distinguishing goat from sheep bones, there was no separation made between these animals, with .5% of the identifiable bone belonging to this "goat or sheep" category (Figure 59). In view of the fact that sixty sheep and twenty goats were captured at Fort Moultrie by the British (Allaire 1780;1968:16), this percentage of bone from these animals seems somewhat small. An interesting reference from the early days of the Revolution in 1774, reveals that because of the non-importation agreement relative to goods, that the utmost effort was to be made to improve the breed of sheep, and to increase their numbers, "and to that end, we will kill them as sparingly as may be", and if overstocking occurred, they were to be disposed of to their neighbors, not killed and eaten (Moultrie 1802:I,29). In spite of the fact that the historical documentation suggests that sheep may have been on hand at Fort Moultrie for supplying wool, it is more likely that they were on hand to provide food for the officers.

IV

EXPLORATORY ARCHEOLOGY NORTH OF THE SECOND FORT MOULTRIE

A midden deposit of oyster shell and bone lay at a depth of two to three feet in trenches to the east of the entrance walk to the Third Fort Moultrie in the area north of the east bastion of the Third Fort Moultrie (Figures 2 & 8). These trenches were 13,61,44, and 58, and all had this layer designated as "E", except Trench 58, which had the same layer designated as "D". The cultural material from these trenches appeared at first glance to be from the period around 1800, since pearlware was the latest ceramic type present (South 1972: 71;85), and this is borne out by the fact that five buttons from 58D are from the First United States Artillery, dating from 1802-1808 (Albert 1973:47-47), which fits well with a turn of the century interpretation.

Layer "E" is the earliest material in these trenches with the exception of Trench 44, which has an "F" layer beneath Layer E (Figure 8,47). This deeper "F" layer has creamware as the latest ceramic type, and therefore would appear to date in the 1770's or 80's, probably being associated with the First Fort Moultrie (South 1972:85). The stave-barrel well in Trench 44 is associated with this "F" layer, and may relate to a First Fort Moultrie time period (Figure 47). The South Mean Ceramic Date Formula produced a date of 1789.6 for the ceramics.*

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*These dates were obtained by using the computer refined version of the formula, which is 235.5 years + .87 X mean ceramic formula date (See South 1972:71, and Figure 51 and Appendix V, this report for the application of the Mean Ceramic Date Formula.)

Layer E in Trench 44, however, is stratigraphically above Layer F, and is equated with the other "E" layers in this area. The following mean ceramic dates were obtained from the South Formula (South 1972: 85).

13E	1802.9	= Average date from ceramics of 1799.0 compared with Second Fort Moultrie occupation of 1794-1804, for a median documented occupation date of 1799.0.
61E	1793.4	
44E	1797.4	
58D	1802.2	

From this comparison of the combined ceramic formula dates of 1799.0, with the known occupation period of 1794 to 1804, for the Second Fort Moultrie (Fig. 1), it becomes evident that the "E" layer in these trenches represents a midden deposit from this period of the Second Fort Moultrie. The only exception to this interpretation is the presence of a single Minie ball post dating 1855 (Servin 1964: 101), which is an obvious intrusion into this deposit containing *no* whiteware.

The *terminus post quem* for the layer as revealed by the five buttons from the First United States Artillery (Albert 1973:46-47), is 1802, since this type button was used only between 1802 and 1808. The fact that this is the only button type recovered in these layers, with none from the War of 1812 Period, would clearly point to these layers as being from the documented period of the Second Fort Moultrie, dating from 1794 to 1804 (Fig. 1). Using the Mean Ceramic Date of 1799.0, and the *terminus post quem* date of 1802, we arrive at an interpreted occupation period from *archeological* data, of ca. 1796 to ca. 1802+ reasonably close to the documented 1794-1804 period.

With the archeological data clearly forcing us into a Second Fort Moultrie interpretation for the artifacts from this group of trenches

at the "E" layer, we need to look at the explanation for this appearance of Second Fort Moultrie midden in this area of the site. When we look at the interpreted location of the Second Fort Moultrie (Fig. 1), we find that the trenches are only forty feet north of the entrance area to the Second Fort Moultrie. Midden from the officers quarters and barracks buildings shown on the 1796 Purcell Map (Fig. 1), would very likely have been thrown to the north of these structures, in the area of these trenches. Thus we have a correspondence of artifact and architectural data indicating Second Fort Moultrie Period activity in the area east of the entrance to the Third Fort Moultrie.

One kind of artifact in this Second Fort Moultrie layer deserves particular attention due to the fact that it apparently is found only in the period ca. 1792 to ca. 1807, and may well prove to be a valuable time marker. This object is a flat copper rectangle, roughly 1 by 2 inches, which is known to occur in two varieties, one with a small tang on one of the long sides, and the other with two, and sometimes three slots, fitting the tang (Fig. 56). The tang and the slots occur on the long side, and there are small pairs of holes at the corners of the side opposite the tang or slot. The corners are clipped off at an angle.

Richard Polhemus, Department of Anthropology at the University of Tennessee, stated that examples of this type artifact had been found, in Tennessee, in two fort sites, dating from 1792 to 1807, and 1797 to 1807. He suggested that they may be a time marker for turn of the century sites, and that they may have been obsolete by the War of 1812, not being found in contexts dating that late.

This information becomes particularly interesting when we look at the two examples of this artifact found at Fort Moultrie. A slotted

variety came from the Second Fort Moultrie "E" provenience discussed here, and the variety with the tang came from stratigraphic Layer 5F, dating ca. 1795 to ca. 1812 (following chapter). Thus the context of both examples from Fort Moultrie suggests that the artifact is likely associated with the occupation of the site during the Second Fort Moultrie, from 1794 to 1804, entirely in keeping with the Tennessee data recovered by Richard Polhemus. Also, this type artifact was not found in later stratigraphic layers at Fort Moultrie.

We now turn to a consideration of the function of these objects. The fact that the tang end fits into the slots in a manner apparently designed to fasten them together, implies that paired holes are opposite the fastening tang and the slot suggests that they were for fastening a strap or collar of cloth or leather to the metal objects (Fig. 56). The smallness of the holes suggests cloth rather than leather. The fact that the corners of the metal are clipped, suggests that cloth covered these objects, and sharp corners would tend to cut through the cloth. Francis A. Lord has suggested that these may be metal fasteners for the high military collars worn on American uniforms around 1800. They may also have been for fastening the crossed bandolier belts worn on uniforms of that period, or possibly for attaching military decorations, but the collar alternative is most likely.

From the exploratory trenches to the east of the present entrance walk to the Third Fort Moultrie, archeology has revealed evidence for the discarding of midden and trash in this area during the occupation of the Second Fort Moultrie, from 1794 to 1804. This refuse was disposed of to the north of the Second Fort Moultrie, between the officers' and enlisted men's quarters and the canal. Since the

second fort was virtually demolished by storms and high tides in the early nineteenth century, this area is one of the few places where artifacts from the Second Fort Moultrie occupation are likely to be recovered in future, Phase 3 excavation projects on the site.

V

STRATIGRAPHIC CONTROL TRENCH FOR EXPLORATORY ARCHEOLOGY, AND THE THIRD FORT MOULTRIE

Synthesis of the Chronology

Material from the stratigraphic control Trench 4 and 5 was sifted by visually distinct stratified layers, and assigned letters to designate these depositional zones (Figs. 8,36). The bottom layer "F" appeared to be within the bed of the canal known to have been associated with the fort from the 1776 period until 1828 (Figs. 1 & 2). From the alignment of the archeologically revealed First Fort Moultrie in relation to the canal shown on the maps, it is apparent that there were two canals, one for the first fort, that was probably considerably filled in by the hurricane of 1783, and a canal connected with the Second and Third Forts Moultrie (Fig. 2). The archeological work at the west end of Trench 5 apparently crossed the canal connected with the Second and Third Forts Moultrie, as revealed by the artifacts associated with the filling of the canal.

As can be seen from the profile in Figure 8, Trench 5, layers "E" and "F" were sealed in by water-laid hurricane sand, over which later occupation took place (Fig. 8). Detailed discussion relative to the observations for each layer can be seen in Appendix I. The important question relative to our synthesis of the stratigraphic data from Trench 4 and 5 is the chronological sequence represented by the strata, a major function of a control trench. From such a chronological control a greater understanding of the occupation sequence on the site can be had in relation to the strata, and these data in turn allow for

the more accurate interpretation of all trenches excavated in the area. This point is emphasized in the fact that no eighteenth century cultural material from the Revolutionary War Period was revealed in the stratigraphic trench, clearly suggesting that the First Fort Moultrie data would be found elsewhere than in the area of this canal, which was indeed found to be the case when other trenches were cut further toward the west.

The stratigraphic control trench was necessary due to the fact that in an exploratory archeology project such as this Phase 2 Fort Moultrie undertaking, the primary objective relating to the discovery of the First Fort Moultrie had top priority over revealing stratigraphy in all trenches. Therefore, the backhoe was used to remove the layers overlying the eighteenth century midden and architectural features to allow for the maximum data recovery for use in planning more extensive Phase 3 and 4 projects for a later time.

The stratigraphic control trench, therefore, represents the occupation history of the site post-dating the Revolutionary War, with the bottom layers "E" and "F", and Layer G (equivalent to Layer F), representing cultural debris thrown into the area from around 1795 to around 1812 (Fig. 60), and the top surface representing the 1973 date of excavation. Exploratory Phase 2 archeology should never be undertaken using machinery until such stratigraphic control has been established for the area of the site being examined.

In order to determine the occupation period represented by each layer a synthesis of data was conducted, which is illustrated in the chart in Figure 60. For this synthesis statement the data from Trench 4 and Trench 5 were combined. The buttons, with their dates of manufacture

and reference source, and the *terminus post quem* for the buttons from each layer were used as a major chronological indicator, since buttons represent direct historical data in many cases. Coins were also used to provide direct historical dates in terms of *terminus post quem,* as were also friction primers, percussion caps, and other miscellaneous artifacts. In addition to this South Mean Ceramic Date Formula (1972:85) was used to arrive at a date for the ceramics for use in arriving at an interpretation of the occupation period represented by each stratigraphic layer* (Appendix V).

From this synthesis of data in Figure 60, we can establish the archeologically determined occupation period represented by each of the stratigraphic layers as follows:

Layer A and Surface Zone:	ca. 1900 to 1973
Layer B	ca. 1850 to ca. 1900
Layer C	ca. 1840 to ca. 1850
Layer D	ca. 1800 to ca. 1840
Layer E,F,G	ca. 1795 to ca. 1812+

With this framework of chronological control for the stratigraphic layers, artifact classes within these layers can also be associated with this temporal sequence. This is illustrated in the synthesis of gunflints, percussion caps, and cartridge cases and bullets presented in an earlier section of this report, and illustrated in Figure 55, and in the synthesis of button data in Figure 61.

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*The Mean Ceramic Date Formula dates were obtained by using the Formula seen in Figure 51.

Synthesis of Archeological Data from the Strati

Establishing the Interpreted Occupation Period

(38CI

STRATIGRAPHIC LAYER	PROVENIENCE AND LAYER	SOUTH BUTTON TYPE AND DESCRIPTION	BUTTON COUNT, CHRONOLOGY & REFERENCE			BUTTON *—Terminus Post Quem*	COINS, REFERENCE AND DATE		MISCELLANEOUS A
4 —	4						U.S. Lincoln Head Penny, Post-1909 Dinkin:76	1909	
A —	4A --	Type 18 - 1st Regt. Artillery, U.S., Foliated "A" with "1" in oval below	1	1813-1814	AA:50	1813	U.S. Indian Head Penny	1891	Sardine can key "SCD" Dispensary
		Type 11 - U.S. Army General Service, "US"	1	1808-1830	AA:18				
	5A --	Type 27 - U.S. Army General Service, Spread Eagle Device	2	1854-1902	AA:39	1854	U.S. Dime	1887	2 friction primer
		Type - - U.S. Army Artillery, Spread Eagle Device	1	1821-1902	AA:56&62				
		Type 11 - U.S. Army General Service, "US"	1	1808-1830	AA:18				
		Type 9 - U.S. Regt. of Artillerists, "RA", with "2" in wreath	1	1811-1813	AA:50				
B —	4B --	Type 27 - U.S. Corps of Artillery, Spread Eagle with "A" on shield	5	1821-1902	AA:56&62	1821			2 friction primer
		Type 27 - U.S. Light Artillery, "LA" with an arrow in oval	1	1808-1821	AA:51-52				
	5B --	Type 26 - U.S. Corps of Artillery, Spread Eagle with "A" on shield	4	1821-1902	AA:56	1861			3 friction primer
		Type 26 - U.S. Army General Service, Great Coat, Eagle, "US" over an oval wreath	2	1820-1839	AA:33				
		Type 27 - Confederate Infantry "cIs"	1	1861- -	AA:364&366				
C —	4C --	Type 21 - U.S. Corps of Artillery, Spread Eagle with "A" on shield	1	1821-1902	AA:56&62	1821			crimped wiring co
		Type 77 - U.S. Artillery Corps, Eagle on Cannon, "CORPS"	1	1814-1821	AA:54-55				
	5C --	Type 27 - U.S. Artillery, Spread Eagle, "A" on shield	2	1821-1902	AA:56	1821			percussion cap
		Type 11 - U.S. Army General Service, "US"	1	1808-1830	AA:18				percussion cap wi
D —	4D --	Type 9 - U.S. Artillery Corps, Eagle on Cannon "CORPS"	7	1814-1821	AA:54-55	1814	U.S. Half Dime	1840	percussion cap
		Type 18 - U.S. Infantry, Eagle with plain shield	1	1814-1821	J: I,48				
	5D --	Type 7 - U.S. Artillery Corps, Eagle on Cannon "CORPS"	1	1814-1821	AA:54	1814			
		Type 7 - 1st Regt. U.S. Light Artillery, "LA", "1"	1	1808-1821	AA:51				
		Type 26 - U.S. Infantry, Eagle with shiled on left	1	1812-1815	AA:22&25				
		Type 11 - U.S. Infantry, Foliated "I" with star in wreath	3	1812-1815	AA:21				
E,F,G —	5E --	Type 11 - U.S. Army General Service, "US"	7	1808-1830	AA:18	1812			bayonet
		Type 11 - U.S. Army Infantry, Foliated "I" with star in wreath	4	1812-1815	AA:21				
		Type - - U.S. Army Infantry, 10th Regt., Foliated "I" with Regt. No. in oval	1	1812	AA:20				
		Type - - U.S. Regt. of Artillerists, Foliated letters "RA"	1	1811-1813	AA:50				
		Type 11 - U.S. Army, Eagle with 3 stars	1	1811	AA:23-24				
		Type 11 - U.S. Infantry, 2nd Regt., Eagle with regimental number and "RT" in oval below	1	1808-1811	AA:19				
		Type - - U.S. Artillery, 1st Regt., Eagle on Cannon with drum	1	1802-1808	AA:46				
		Type 10 - British Royal Artillery	1	Post-Rev.	C&B:98,108				
	5F --	Type 11,7 U.S. Army Infantry, Foliated "I"	3	1812-1815	AA:21	1812	Spanish, Carolus III Hobson:80	1775	
		Type 9 - U.S. Regt of Artillerists, Foliated "RA"	2	1811-1813	AA:50				
		Type 11 - U.S. Army, Eagle with 3 stars below	2	1811	AA:23-24				
		Type 11 - U.S. Army General Service, "US"	5	1808-1830	AA:18				
		Type 9 - U.S. 1st Regt Artillery, Eagle, Drum "1st Regt"	5	1802-1808	AA:46-47				
		Type 11 - U.S. Infantry Regts., "UNITED STATES" & Regt. Number	5	1798-1802	AA:16-17				
		Type 10 - British Royal Artillery	1	Post-Rev.	C&B:98,108				
	5G --	Type 11 - U.S. Infantry, Foliated "I" with star in wreath	9	1812-1815	AA:21	1812			
		Type 11 - U.S. Army General Service, "US"	6	1808-1830	AA:18				
		Type 9 - U.S. 1st Regt. Artillery, Eagle, Drum, "1st Regt"	1	1802-1808	AA:47				
		Type 10 - British Royal Artillery, 3 cannon on shield	1	Post-Rev.	C&B:98,108				

Figure 60

**The mean ceramic date
assigning a begin

graphic Control Trench at Fort Moultrie for

Represented by the Archeological Layers.

Institute of Archeology and Anthropology
University of South Carolina

Stanley South, Archeologist
Mike Hartley, Assistant

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RTIFACTS & REFERENCE	MISCELLANEOUS *Terminus Post Quem*	LAYER *Terminus Post Quem*	COMBINED LAYER *Terminus Post Quem*	MEAN CERAMIC DATE (South Formula)	INTERPRETED OCCUPATION PERIOD	DOCUMENTED OCCUPATION PERIODS FOR THE FORTS NAMED MOULTRIE
		4 - 1909	4 - 1909			
Bottle Frag.	Fontana:89 1895 Huggins:v,20 ca.1900-1907 Peterson:116 1840's	4A 1900 5A - 1887	A - 1900	1842.7*	4+ A= ca. 1900—1973	
s	Peterson:116 1840's	4B - 1840's	B - 1861	1842.7*	B= ca. 1850-ca. 1900	
s	Peterson:116 1840's	5B 1861				
nnector	?	4C - 1821	C - 1844	1846.7	C= ca. 1840 - ca. 1850	
h "US"	Moore:25 1818 (French patent) Serven:66 1844 (1st U.S. military issue)	5C - 1844				
	Moore:25 1818 (French patent)	4D - 1840	D - 1840	1810.7	D=ca. 1800** - ca. 1840	THIRD FORT MOULTRIE 1808 - Present
		5D - 1814				
	McNulty:54-77 1795-1812	5E - 1812				
		5F - 1812	E,F,G-1812	1803.8	E,F,G=ca. 1795 - ca. 1812+	
		5G - 1812				SECOND FORT MOULTRIE 1794 - 1804
DATA FROM OTHER PROVENIENCES FOR COMPARISON	Second Fort Moultrie Midden		1802	1799.0	ca.1796 - ca. 1802+	
	British Midden Deposit		1781	1781.8	ca.1780 - ca. 1783.6	FIRST FORT MOULTRIE 1776 - 1783
	American Midden Deposit		1795	1774.0	ca.1753 - ca. 1795+	

HISTORICAL DATA FOR COMPARISON WITH THE ARCHEOLOGICAL DATA

f 1810.7 was given weight here in
ng date of ca. 1800 for this layer.

*The formula is not designed to be applied beyond the early nineteenth century.

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Synthesis of Archeological Data from the Strati

Establishing the Interpreted Occupation Period

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STRATIGRAPHIC LAYER	PROVENIENCE AND LAYER	SOUTH BUTTON TYPE AND DESCRIPTION	BUTTON COUNT, CHRONOLOGY & REFERENCE			BUTTON —Terminus Post Quem	COINS, REFERENCE AND DATE		MISCELLANEOUS A
4 —	4						U.S. Lincoln Head Penny, Post-1909 Dinkin:76	1909	
A —	4A	Type 18 - 1st Regt. Artillery, U.S., Foliated "A" with "1" in oval below	1	1813-1814	AA:50	1813	U.S. Indian Head Penny	1891	Sardine can key "SCD" Dispensary
		Type 11 - U.S. Army General Service, "US"	1	1808-1830	AA:18				
	5A	Type 27 - U.S. Army General Service, Spread Eagle Device	2	1854-1902	AA:39	1854	U.S. Dime	1887	2 friction primer
		Type - - U.S. Army Artillery, Spread Eagle Device	1	1821-1902	AA:56&62				
		Type 11 - U.S. Army General Service, "US"	1	1808-1830	AA:18				
		Type 9 - U.S. Regt. of Artillerists, "RA", with "2" in wreath	1	1811-1813	AA:50				
B —	4B	Type 27 - U.S. Corps of Artillery, Spread Eagle with "A" on shield	5	1821-1902	AA:56&62	1821			2 friction primer
		Type 27 - U.S. Light Artillery, "LA" with an arrow in oval	1	1808-1821	AA:51-52				
	5B	Type 26 - U.S. Corps of Artillery, Spread Eagle with "A" on shield	4	1821-1902	AA:56	1861			3 friction primer
		Type 26 - U.S. Army General Service, Great Coat, Eagle, "US" over an oval wreath	2	1820-1839	AA:33				
		Type 27 - Confederate Infantry "cIs"	1	1861- -	AA:364&366				
C —	4C	Type 21 - U.S. Corps of Artillery, Spread Eagle with "A" on shield	1	1821-1902	AA:56&62	1821			crimped wiring co
		Type 7? - U.S. Artillery Corps, Eagle on Cannon, "CORPS"	1	1814-1821	AA:54-55				
	5C	Type 27 - U.S. Artillery, Spread Eagle, "A" on shield	2	1821-1902	AA:56	1821			percussion cap
		Type 11 - U.S. Army General Service, "US"	1	1808-1830	AA:18				percussion cap wi
D —	4D	Type 9 - U.S. Artillery Corps, Eagle on Cannon "CORPS"	7	1814-1821	AA:54-55	1814	U.S. Half Dime	1840	percussion cap
		Type 18 - U.S. Infantry, Eagle with plain shield	1	1814-1821	J: I,48				
		Type 7 - U.S. Artillery Corps, Eagle on Cannon "CORPS"	1	1814-1821	AA:54				
	5D	Type 7 - 1st Regt. U.S. Light Artillery, "LA", "1"	1	1808-1821	AA:51	1814			
		Type 26 - U.S. Infantry, Eagle with shiled on left	1	1812-1815	AA:22&25				
		Type 11 - U.S. Infantry, Foliated "I" with star in wreath	3	1812-1815	AA:21				
E,F,G —	5E	Type 11 - U.S. Army General Service, "US"	7	1808-1830	AA:18	1812			bayonet
		Type 11 - U.S. Army Infantry, Foliated "I" with star in wreath	4	1812-1815	AA:21				
		Type - - U.S. Army Infantry, 10th Regt., Foliated "I" with Regt. No. in oval	1	1812	AA:20				
		Type - - U.S. Regt. of Artillerists, Foliated letters "RA"	1	1811-1813	AA:50				
		Type 11 - U.S. Army, Eagle with 3 stars	1	1811	AA:23-24				
		Type 11 - U.S. Infantry, 2nd Regt., Eagle with regimental number and "RT" in oval below	1	1808-1811	AA:19				
		Type - - U.S. Artillery, 1st Regt., Eagle on Cannon with drum	1	1802-1808	AA:46				
		Type 10 - British Royal Artillery	1	Post-Rev.	C&B:98,108				
	5F	Type 11,7 U.S. Army Infantry, Foliated "I"	3	1812-1815	AA:21	1812	Spanish, Carolus III Hobson:80	1775	
		Type 9 - U.S. Regt of Artillerists, Foliated "RA"	2	1811-1813	AA:50				
		Type 11 - U.S. Army, Eagle with 3 stars below	2	1811	AA:23-24				
		Type 11 - U.S. Army General Service, "US"	5	1808-1830	AA:18				
		Type 9 - U.S. 1st Regt Artillery, Eagle, Drum "1st Regt"	5	1802-1808	AA:46-47				
		Type 11 - U.S. Infantry Regts., "UNITED STATES" & Regt. Number	5	1798-1802	AA:16-17				
		Type 10 - British Royal Artillery	1	Post-Rev.	C&B:98,108				
	5G	Type 11 - U.S. Infantry, Foliated "I" with star in wreath	9	1812-1815	AA:21	1812			
		Type 11 - U.S. Army General Service, "US"	6	1808-1830	AA:18				
		Type 9 - U.S. 1st Regt. Artillery, Eagle, Drum, "1st Regt"	1	1802-1808	AA:47				
		Type 10 - British Royal Artillery, 3 cannon on shield	1	Post-Rev.	C&B:98,108				

Figure 60

**The mean ceramic date
assigning a begin

graphic Control Trench at Fort Moultrie for

Represented by the Archeological Layers.

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TIFACTS & REFERENCE	MISCELLANEOUS *Terminus Post Quem*		LAYER *Terminus Post Quem*	COMBINED LAYER *Terminus Post Quem*	MEAN CERAMIC DATE (South Formula)	INTERPRETED OCCUPATION PERIOD	DOCUMENTED OCCUPATION PERIODS FOR THE FORTS NAMED MOULTRIE
			4 - 1909	4 - 1909			
Bottle Frag.	Fontana:89	1895	4A 1900	A - 1900	1842.7*	4+ A= ca. 1900—1973	
	Huggins:v,20	ca.1900-1907					
	Peterson:116	1840's	5A - 1887				
	Peterson:116	1840's	4B - 1840's	B - 1861	1842.7*	B= ca. 1850-ca. 1900	
	Peterson:116	1840's	5B 1861				
nector		?	4C - 1821	C - 1844	1846.7	C= ca. 1840 - ca. 1850	
	Moore:25	1818 (French patent)					
h "US"	Serven:66	1844 (1st U.S. military issue)	5C - 1844				
	Moore:25	1818 (French patent)	4D - 1840	D - 1840	1810.7	D=ca. 1800** - ca. 1840	
			5D - 1814				
	McNulty:54-77	1795-1812	5E - 1812				
			5F - 1812	E,F,G-1812	1803.8	E,F,G=ca. 1795 - ca. 1812+	
			5G - 1812				
DATA FROM OTHER PROVENIENCES FOR COMPARISON	Second Fort Moultrie Midden			1802	1799.0	ca.1796 - ca. 1802+	
	British Midden Deposit			1781	1781.8	ca.1780 - ca. 1783.6	
	American Midden Deposit			1795	1774.0	ca.1753 - ca. 1795+	

HISTORICAL DATA FOR COMPARISON WITH THE ARCHEOLOGICAL DATA

THIRD FORT MOULTRIE
1808 - Present

SECOND FORT MOULTRIE
1794 - 1804

FIRST FORT MOULTRIE
1776 - 1783

E 1810.7 was given weight here in
g date of ca. 1800 for this layer.

*The formula is not designed to be applied beyond the early nineteenth century.

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Synthesis of the Button Data from the Stratigraphic Control Trench

While the button data presented in the chart in Figure 60, is useful in providing a chronological framework for the archeological strata, it does not completely reveal the relationships existing between various button types and the archeological strata. This synthesis is presented in the chart in Figure 61, where several interesting relationships may be noted Types 1 and 2 date from 1798 to 1808, and are likely associated with the occupation of the site during the Second Fort Moultrie Period, from 1794 to 1804, and are concentrated entirely in Layers E, F, and G. The heavy concentration of types 7 and 8, also in Layers E, F, G, are clearly from the War of 1812 Period, during the construction and early years of the Third Fort Moultrie, after 1808 (Bearss 1968a:22). This layer then represents cultural materials from the period of both the second and third forts, ca. 1795-1812, based on archeological data. The historical data, of course, would date the occupation period from ca. 1794 to 1804 for the Second Fort Moultrie, with the Third Fort Moultrie dating from its construction in 1808 (Bearss 1968a;1968b;1968c).

Another interesting observation is that a number of button types do not occur in the E, F, and G Layers. Among these are Types 10, 11, and 12, in Layer D, which were not manufactured after 1821 (Fig. 61), again pointing to the War of 1812 Period for these types. A particularly significant absence from the Layers E, F, and G, are Types 13 and 14, four hole bone and metal buttons, and five hole bone buttons. These types are not seen in Revolutionary War contexts, and here occur only in Layer D and above, clearly pointing to a post-1800 context for these types. Porcelain and shell buttons, Types 18

Synthesis of Button Data by Stratigraphic Layer from Control Trench 4 & 5 at Fort Moultrie, S. C. (38CH50)

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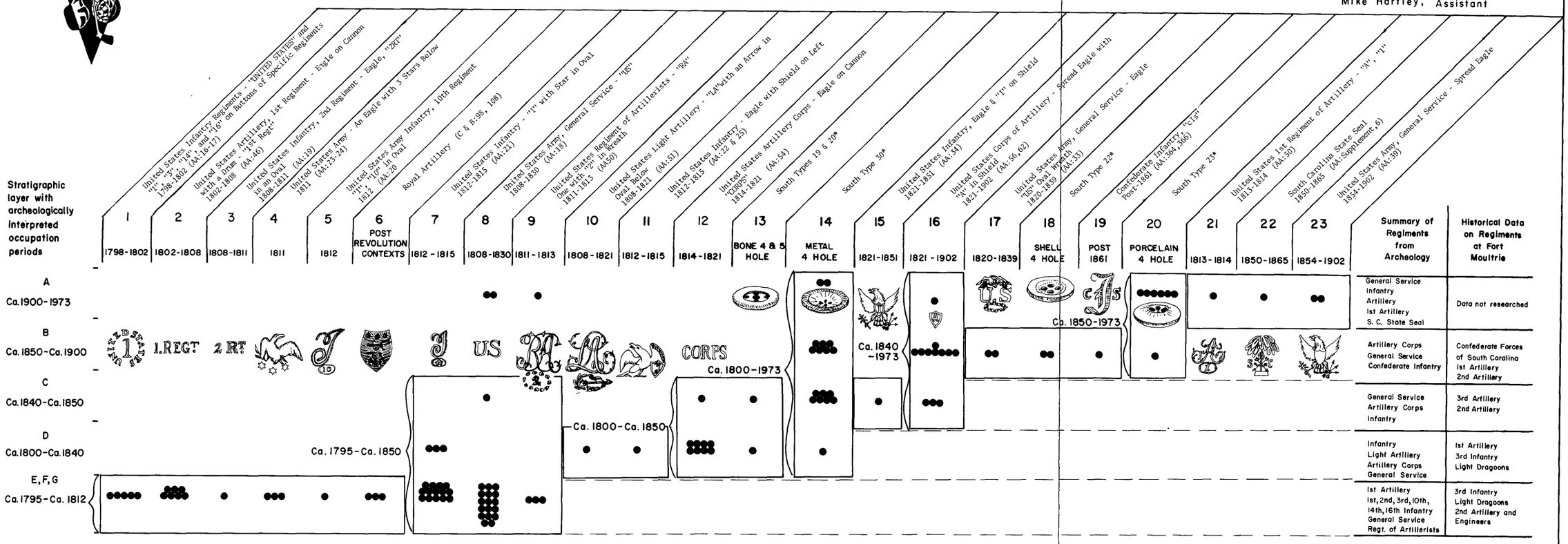

*South, Stanley
1964 Analysis of the Buttons from Brunswick Town and Fort Fisher. *The Florida Anthropologist*, Vol.XVII, No. 2. The Florida Anthropological Society, Gainesville.

J.F.6·1974

Figure 61

and 20, do not appear until Layer B, suggesting a post-1850 occurrence of these types.

Some types, such as Type 21, with an historical date of 1813-1814, occur only in Layer A, totally out of stratigraphic context (Fig. 61). Such a case can best be explained through intrusion of later features into earlier layers, and such features did indeed occur, though an attempt was always made to isolate such features as soon as they were recognized (Fig. 2).

A particularly interesting comparison is made in the right hand columns of Figure 61, where the historical record regarding regiments at Fort Moultrie is compared with the archeological record. In the bottom, E, F, and G Layer, ca. 1795 to ca. 1812, we find the documents mention only the 3rd Infantry, Light Dragoons, and the Second Artillery and Engineers for this period, whereas the archeological document reveals seven other regiments represented (Fig. 61). In Layers B, C, and D, the archeological record reveals no numbered regiments, whereas the documentary record indicates that the First, Second, and Third Artillery Regiments and the Third Infantry Regiments are present during this time period, as well as the Light Dragoons (Fig. 61). Layer B, dating from ca. 1850 to ca. 1900, reveals a correlation between historical and archeological documents through the South Carolina Confederate button.

This synthesis of the button data from the stratigraphic control trench for the exploratory archeology has revealed several specific pieces of data of potential value in the future interpretation of some button types. Again we see that there is a lack of correlation between the archeological and historical documents on the *specific level.*

The level on which there is a correspondence between the documentary and archeological records is that indicating the presence of infantry and artillery units on the site. Archeology can and did demonstrate that artillery and infantry regiments were on the site from ca. 1795 until the twentieth century. It also revealed that several regiments, not before recorded, were present on the site as indicated by the buttons of such regiments, including a Royal Artillery Button of the post-Revolutionary War Period (Calver and Bolton 1970:98,108). It did not reveal numbered regiments where numbered regiments were known through documents to have been on the site.

On the broadest, most general level, therefore, there is a correspondence between archeological and historical data, but not on the more specific level of regimental units. This does not mean that archeology cannot reveal such specific information, for as we have seen, it has. *However, when it does there is not necessarily a surviving historical document accompanying this record. The obvious conclusion from this and other syntheses conducted with the Fort Moultrie data in this report, is that if our archeological involvement is merely a search for a correlation between the archeological and historical documents, then we have involved ourselves in a fruitless non predictive exercise.*

Synthesis of the Ceramic Data from the Stratigraphic Control Trench

In order to utilize the ceramic relationships from the various layers in the stratigraphic control trench a general taxonomy for nineteenth century ceramics found on historic sites was constructed (Fig. 62). An important classification is termed "Ironstone-Whiteware", which is a combination of white earthenware types, and

those generally harder fired ironstone or graniteware types (Noël Hume 1970; South 1972). Whiteware has a manufacture range from ca. 1820 to ca. 1900+, and ironstone has a range from ca. 1813 to ca. 1900 (South 1972:85). The hardness, which is a major means of distinguishing these types, is so variable that often a vessel with a hardness of earthenware will have "Ironstone China", or some similar designation as part of its mark. Because of this difficulty, and because of the similar time period of manufacture, the separation of these types *on the basis of hardness* appears to be an invalid approach. For this reason the types have been combined into the classification "Ironstone-Whiteware" as shown on the taxonomy chart (Fig. 62). Detailed attribute analysis on other lines than hardness is entirely feasible, using marks, decoration, motifs, color, etc., but such an analysis was not undertaken from the data recovered in this exploratory excavation. For purposes of use in the Mean Ceramic Date Formula, the date 1860, assigned to whiteware, was used (South 1972:85).

The major types recovered from Layer C, D, and E, F, G were pale creamware, pearlware, and ironstone-whiteware (Appendix V), and these other types from these layers were used to derive a suggested median occupation date represented by the ceramics through determining the mean ceramic date using the Mean Ceramic Date Formula (South 1972:85; Fig. 51, this report, and Appendix V). Some types recovered in these layers were, of course, not used in the formula since their manufacture period is not sufficiently known, and since they did not occur on the list of ceramic types to be used with the formula (Appendix V). Such types represent a minor percentage of the ceramics from the layers, however, represented by only 10 sherds in Layer C,

46 in Layer D, and 127 in Layer E,F,G where over 600 sherds were used in the formula date determination (Appendix V). These types not used in the formula are Oriental porcelain, yellow ware, coarse and refined lead-glazed earthenware, stoneware fragments, Albany slipped wares, alkaline glazed stoneware, blue decorated salt-glazed stoneware, gray stoneware (American), slipware (American), and nineteenth century brown stonewares.

The Mean Ceramic Date Formula was not designed to produce dates after the early part of the nineteenth century, and when it was applied to the ceramics from Layer A and B in the stratigraphic control trench, it demonstrated its limit by producing the same date of 1842.7 for these layers known from other data to date from ca. 1850 to 1973 (Fig. 60). With Layers C, D, and E,F,G, however, the dates from the Mean Ceramic Date Formula fit well with the other artifact classes relative to chronology. For instance, Layer C, with a *terminus post quem* of 1844, has a mean ceramic date of 1846.7, and when these two are used together, an *interpreted* occupation period of ca. 1840 to ca. 1850 is determined (Figure 60).

Layer D has a *terminus post quem* date of 1840, but produced a mean ceramic date of 1810.7. Subtracting the difference between these dates from 1810.7, we arrive at an interpreted occupation date from ca. 1781 to ca. 1840. We know, however, that this beginning date is too early based on the absence of delft, faience, white salt-glazed stoneware, and Westerwald, types that should be present if such an early occupation date was indeed correct. Therefore, we have an instance where we can refine the *interpreted occupation date* derived from a use of the mean ceramic date and the *terminus post quem* date. We have chosen the date of 1800 as a sounder alternative beginning

occupation date represented by the ceramic sample and other artifact data from this layer (Fig. 60).

Layer E,F,G, the deepest deposit in the stratigraphic control trench (Fig. 8), apparently part of the canal bed, produced a mean ceramic date of 1803.8. When we use this date, and the *terminus post quem* date of 1812 for the layer, subtracting the difference from the mean ceramic date, we arrive at an interpreted occupation date for the layer of ca. 1795 to ca. 1812+ (Fig. 60).

Using this basic archeological method in conjunction with the mean ceramic date we have *archeologically* established the likely occupation period represented by each of the stratigraphic layers in the trench. The degree to which this effort is successful can be seen by comparing the interpreted *archeological* occupation periods with the documented *historical* occupation periods represented by the three forts Moultrie in Figure 60.

This standard archeological procedure is a basic first step in the examination of any historic site, and is the archeological core for unfolding the chronological story. It becomes a temporal framework around which the archeologist builds his interpretation of the cultural patterning reflected by the archeological data. Historic site archeology literature is full of site reports that totally ignore this basic archeological requirement; this responsibility the archeologist has to his data and to archeology. The reason lies in the fact that too often the documented history of the site is used as the core onto which the archeological data is loosely glued. Such an approach prostitutes the role of archeology in the examination of historic sites. When our interpretation of an historic site is

anchored in an archeologically constructed core, we can remove the historical documentation and we still have a firmly based body of data supporting our interpretation. However, if documentation is the core onto which our archeological interpretation has been pinned, when we remove the historical documentation, our entire structure collapses for lack of a central archeological foundation.

Other Artifact Data from the Stratigraphic Control Trench

The synthesis of gunflints, percussion caps, cartridge cases and bullets from the stratigraphic control trench is seen in Figure 55. Buttons are seen to make their contribution to our understanding of the site in Figures 60 and 61, with the temporal value of coins and military items being revealed in Figure 60. The ceramics, discussed above, are seen in Appendix V, where they also contribute toward our temporal understanding of the strata on the site at Fort Moultrie.

The canal bed in provenience 5F, contained objects that had remained below water table for 180 years, including wood chips of palmetto and pine, leather fragments, shoes, peanut hulls and watermelon seeds. There was a contrast between the type of shoes seen in the canal, dating from ca. 1794 to ca. 1812, and those from the British midden deposit in the First Fort Moultrie ditch. This difference is seen in the shape of the heel, and this is illustrated in Figure 58.

The stratigraphic layers also revealed other artifacts of various classes, but no extensive analysis of these has been undertaken, since those classes of artifacts considered most productive for the purposes of this exploratory project have already been dealt with in the previous sections of this report. It is clear, however, that the

A General Taxonomy for Nineteenth Century Ceramics for Use In Historical Archeology

Ceramic Wares, Types, and Varities

PORCELAIN

- Underglaze Blue Chinese Porcelain
- Overglaze Enamelled Chinese Export Porcelain
- Canton Porcelain
- English Porcelain
- White Overglazed Enamelled Porcelain
- Plain White Porcelain
- Japanese Porcelain

STONEWARE

- Brown Stoneware Bottles for Ink, Beer, Etc.
- Nottingham Stoneware (Lustered)
- Blue and Grey Salt-Glazed Stoneware
- Brown and Grey Salt-Glazed Stoneware
- Grey Salt-Glazed Stoneware
- Buff Salt-Glazed Stoneware
- Debased "Scratch Blue" Salt-Glazed Stoneware
- White Salt-Glazed Stoneware
- "Black Basaltes" Stoneware
- Feldspathic Glazed Stoneware, Bottles, Jugs, Etc.
- Albany Slip Glazed Stoneware
- Alkaline Glazed Stoneware
  - Slip Decorated
- Unglazed White Stoneware
- Unglazed Red Stoneware
- Ironstone and Granite China
- Whiteware
  - Ironstone-Whiteware
    - Plain and Embossed
    - Polychrome Painted
    - Blue Painted
    - Annular
      - Mocha
    - Edge Decorated
      - Blue
      - Green
      - Etc.
      - Embossed
    - Sponged (Spatterware)
      - Blue
      - Green
      - Red
      - Etc.
      - Luster
        - Copper
        - Silver
        - Pink
    - "Cork Stamped" Decorated
    - Transfer-Printed (Over and Underglaze)
      - Blue
      - Green
      - Brown
      - Purple
      - Etc.
      - Overglaze Enamelled
    - (Pattern Analysis)
      - "Willow"
      - "Flow Blue" Types
      - Etc.
    - (Mark Analysis)
      - Impressed
      - Transfer-Printed
      - Hand Painted
      - Etc.

EARTHENWARE

- Yellow Ware
  - Embossed
  - Annular
    - Mocha
  - Transfer-Printed
- Bennington
  - Rockingham
- Luster Decorated
  - Copper
  - Silver
  - Pink
- Coarse Agate Ware
  - Doorknobs
- Lead Glazed Earthenware
  - Red
  - Black
  - Brown
  - Etc.
- Unglazed Earthenware
  - Flower Pots
  - Kiln Wasters

Bisque

Tin-Enamelled
- Debased Rouen Faience
- Pedestal-Footed Type Delft Ointment Pot
- Everted Rim, Plain Delft Ointment Pot
- Decorated Delftware
- Plain Delft Washbasins
- Plain White Delftware
- Delft Chamber Pots

Creamware
- Form
  - Plain
  - Royal
  - Queens'
  - Shell Edged
  - Feather Edged
- "Finger-Painted" Wares (Polychrome Slip)
- "Annular Wares"
- Dark Yellow
- Lighter Yellow
- Overglaze Enamelled Hand Painted
- Transfer-Printed

Pearlware
- Underglaze Blue Hand Painted
- Underglaze Polychrome Painted
  - Delicate Flowers, Pastel Colors
  - Bold Flowers, Bold, Bright Colors
    - Bright Blue
    - Orange
    - Green
    - Pinkish Red
  - Directly Stenciled
- "Annular Wares"
  - Mocha
- "Finger-Painted" (Polychrome Slip)
- Edge Decorated
  - Blue
  - Green

- Embossed Feathers, Fish Scales, Etc.
- Transfer-Printed Pearlware
  - Blue
  - Other
- (Pattern Analysis)
  - "Willow"
  - Other
- Undecorated

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See: Noël Hume, Ivor 1970. A Guide to Artifacts of Colonial America. Alfred A. Knopf, Inc.
South, Stanley 1972. "Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology", The Conference on Historic Site Archaeology Papers. Vol. 6, pp. 71-116.

* Prompted by a research visit to the Institute of Archeology and Anthropology by Linda L. Ferguson, Department of Anthropology and Sociology
University of Idaho
Moscow, Idaho

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Figure 62

A General Taxonomy for Nineteenth Century Ceramics for Use In Historical Archeology

Ceramic Wares, Types, and Varities

PORCELAIN

- Underglaze Blue Chinese Porcelain
- Overglaze Enamelled Chinese Export Porcelain
- Canton Porcelain
- English Porcelain
- White Overglazed Enamelled Porcelain
- Plain White Porcelain
- Japanese Porcelain

STONEWARE

- Brown Stoneware Bottles for Ink, Beer, Etc.
- Nottingham Stoneware (Lustered)
- Blue and Grey Salt-Glazed Stoneware
- Brown and Grey Salt-Glazed Stoneware
- Grey Salt-Glazed Stoneware
- Buff Salt-Glazed Stoneware
- Debased "Scratch Blue" Salt-Glazed Stoneware
- White Salt-Glazed Stoneware
- "Black Basaltes" Stoneware
- Feldspathic Glazed Stoneware, Bottles, Jugs, Etc.
- Albany Slip Glazed Stoneware
- Alkaline Glazed Stoneware
  - Slip Decorated
- Unglazed White Stoneware
- Unglazed Red Stoneware
- Ironstone and Granite China / Whiteware
  - Ironstone-Whiteware
    - Plain and Embossed
    - Polychrome Painted
    - Blue Painted
    - Annular
      - Mocha
    - Edge Decorated
      - Blue
      - Green
      - Etc.
      - Embossed
    - Sponged (Spatterware)
      - Blue
      - Green
      - Red
      - Etc.
      - Luster
        - Copper
        - Silver
        - Pink
    - "Cork Stamped" Decorated
    - Transfer-Printed (Over and Underglaze)
      - Blue
      - Green
      - Brown
      - Purple
      - Etc.
      - Overglaze Enamelled
    - (Pattern Analysis)
      - "Willow"
      - "Flow Blue" Types
      - Etc.
    - (Mark Analysis)
      - Impressed
      - Transfer-Printed
      - Hand Painted
      - Etc.

EARTHENWARE

- Yellow Ware
  - Embossed
  - Annular
    - Mocha
  - Transfer-Printed
- Bennington
  - Rockingham
- Luster Decorated
  - Copper
  - Silver
  - Pink
- Coarse Agate Ware
  - Doorknobs
- Lead Glazed Earthenware
  - Red
  - Black
  - Brown
  - Etc.
- Unglazed Earthenware
  - Flower Pots
  - Kiln Wasters

Tin-Enamelled
- Debased Rouen Faience
- Pedestal-Footed Type Delft Ointment Pot
- Everted Rim, Plain Delft Ointment Pot
- Decorated Delftware
- Plain Delft Washbasins
- Plain White Delftware
- Delft Chamber Pots

Creamware
- Form
  - Plain
  - Royal
  - Queens'
  - Shell Edged
  - Feather Edged
- "Finger-Painted" Wares (Polychrome Slip)
- "Annular Wares"
- Dark Yellow
- Lighter Yellow
- Overglaze Enamelled Hand Painted
- Transfer-Printed

Pearlware
- Underglaze Blue Hand Painted
- Underglaze Polychrome Painted
  - Delicate Flowers, Pastel Colors
  - Bold Flowers, Bold, Bright Colors
    - Bright Blue
    - Orange
    - Green
    - Pinkish Red
  - Directly Stenciled
- "Annular Wares"
  - Mocha
- "Finger-Painted" (Polychrome Slip)
- Edge Decorated
  - Blue
  - Green

- Embossed Feathers, Fish Scales, Etc.
- Transfer-Printed Pearlware
  - Blue
  - Other
- (Pattern Analysis)
  - "Willow"
  - Other
- Undecorated

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South 3·15·1974

Figure 62

trash for all three Forts Moultrie was discarded in the area north of the north curtain wall of the forts.

Summary of the Features from the Third Fort Moultrie

Discovery of features relating to the Third Fort Moultrie was only of incidental concern in this exploratory archeology project, designed primarily to locate evidence for the First Fort Moultrie (See Introduction). However, some features were located in the process of searching for the first fort, and these have been discussed in one way or another in the body of this report, and the documentation relative to them has been presented. These features are of concern in this project primarily because of their intrusion into the earlier deposits and onto earlier features.

Of particular concern was the well-built Eliason Palisade of 1833, shown in plan and profile in Figure 28 of this report, and occurring as photographs of the excavated posts (Feature 21), in Figures 21 and 22. The intrusion of this feature onto the earlier Revolutionary War Period features in the west end of Trench 21 resulted in the contamination of this entire end of the trench, as far as First Fort Moultrie data were concerned. These squared palisade posts were positioned on a squared timber, with the palisades having a notched base to engage the horizontal supporting timber. This allowed for perfect alignment of the palisades at the upper point, and along the sides, a very effective means of insuring a militarily neat and functional wall. The horizontal timber on which the palisades were positioned was in turn resting on rectangular pads of boards, designed to provide support for the horizontal beam in wet, quicksand type earth (Fig. 63).

Parallel with the 1833 palisade of Captain Eliason (Bearss 1968b: 74), was the quicksand moat associated with the Third Fort Moultrie, which was dug by Federal troops in 1860 (Scott 1880:I,92). This moat is seen in the drawing in Figure 63, and in Figure 22.

Another palisade or abatis formed of yellow pine, and set in a ditch with a palmetto log to provide a deadman weight to hold the leaning palisades in place, was discovered to the west of, and paralleling the ditch for the First Fort Moultrie (Figs. 45,46, & 49). This palisade was built during the Civil War Period, in 1860, and is shown on a map of the period as a "PICKET FENCE" (Scott 1880:I,92, Figure 30, this report). The intrusion of this abatis into the midden deposits thrown out by the Americans from the gateway of the First Fort Moultrie resulted in a few objects from the mid-nineteenth century finding their way into the midden of the Revolutionary War Period (Figs. 2,45,46,49).

The Confederate traverse seen in photographs of the Civil War Period (Figs. 23,24), was well represented in the thick layer of sand in the area of the site east of the Third Fort Moultrie (Figs. 10, 12). Associated with this layer were a number of artillery shells (Feature 93) from the Civil War Period (Fig. 17), and in Trench 89, a complete 11" artillery shell was recovered, allowing the dating of the level on which it was lying at ca. 1863-65 (Fig. 19). Southeast of this trench, in Trench 3, the Civil War layer was represented by quantities of nails and old boards, as was the area south of the Third Fort Moultrie in Trench 70 (Fig. 20).

In Trench 70 (Fig. 1), the edge of a breakwater constructed in 1831 was revealed, composed of brick rubble from the Second Fort

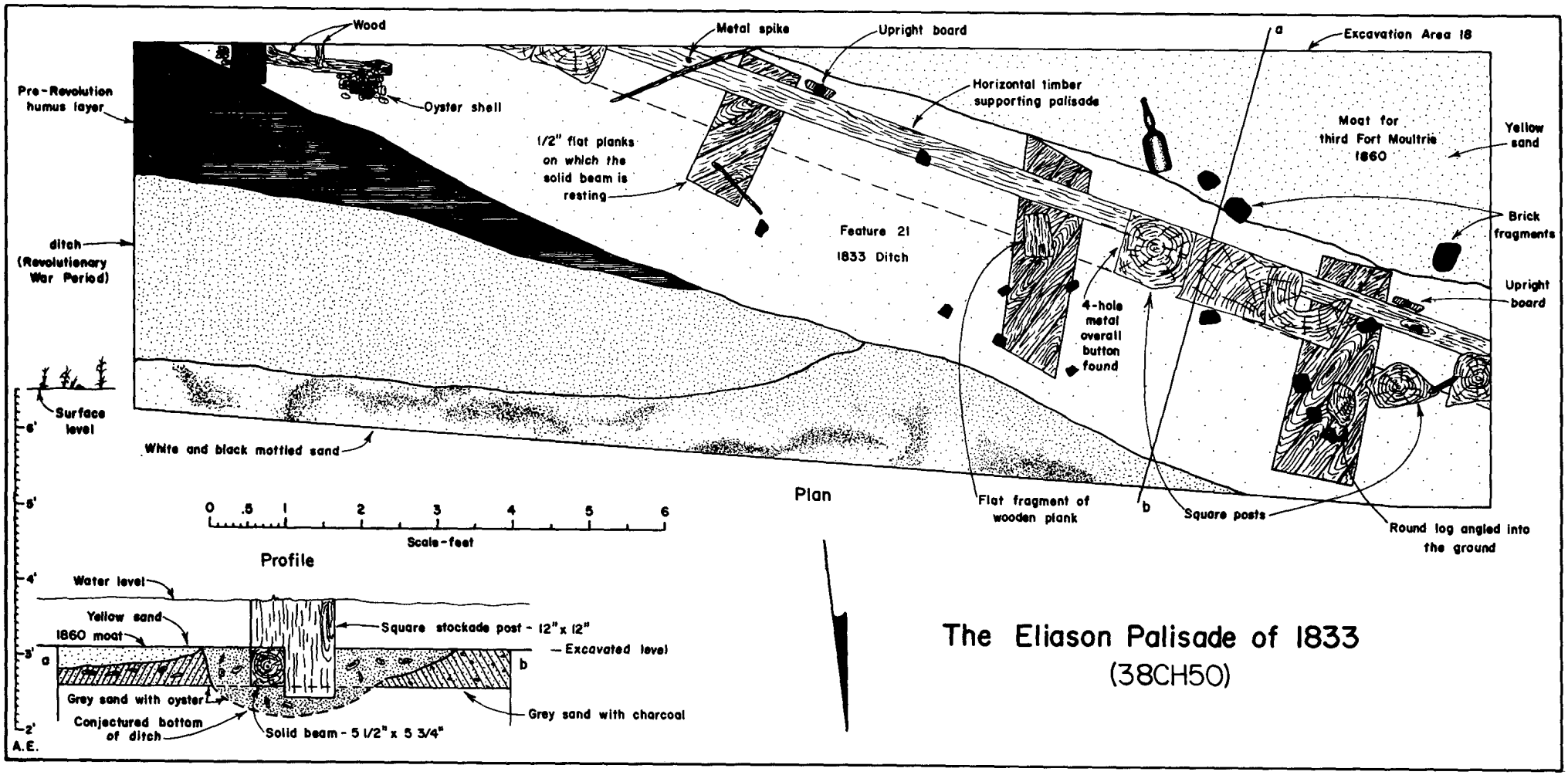
Wood
Metal spike
Upright board
a
Excavation Area 18
Pre-Revolution humus layer
Oyster shell
Horizontal timber supporting palisade
Moat for third Fort Moultrie 1860
Yellow sand
1/2" flat planks on which the solid beam is resting
Feature 21
1833 Ditch
Brick fragments
ditch (Revolutionary War Period)
4-hole metal overall button found
Upright board
Surface level
White and black mottled sand
Plan
Flat fragment of wooden plank
b
Square posts
Round log angled into the ground
0 .5 1 2 3 4 5 6
Scale-feet
Profile
6'
5'
4'
3'
2'
Water level
Yellow sand
1860 moat
Square stockade post - 12" x 12"
Excavated level
a
b
Grey sand with oyster
Grey sand with charcoal
Conjectured bottom of ditch
Solid beam - 5 1/2" x 5 3/4"
A.E.
The Eliason Palisade of 1833
(38CH50)

Figure 63

Moultrie, which was destroyed by a hurricane in 1804 (Bearss 1968a:75). To the east of the Third Fort Moultrie, in Trenches 103-105, evidence was found for the 1833 beach shown on a map of that date (Fig. 28).

By probing, and viewing the present beach to the south of the Third Fort Moultrie, the position of Bowman's jetty can be seen, constructed in 1839 to protect the Third Fort Moultrie from being destroyed by the sea (Bearss 1968b:81). The position of this jetty can be seen in relation to Fort Moultrie in Figure 29.

To the north of Middle Street, a nineteenth century ditch (Feature 79), was seen to intrude across an earlier ditch thought to be part of the "camp" used by William Moultrie and his men in 1776, prior to moving into the fort (Figs. 2,41).

The stratigraphic trench, of course, revealed considerable data for use in interpreting the nineteenth century periods represented by the archeological layers, including a sample from the bed of the canal (Figs. 2,36). A drain (Fig. 18), dating from the mid-nineteenth century was discovered in the east end of Trench 4, made of bricks and covered with sandstone blocks. Many other pipes, drain lines, ditches, etc. from the nineteenth and twentieth centuries were found during the exploratory excavation on the Fort Moultrie Site, and these are shown in the maps in Figures 1 & 2. Their location on these maps should be of some use to the archeologists who later come to Fort Moultrie to carry out the more extensive Phase 3 and Phase 4 excavation on a more involved level of complexity than has been possible in this preliminary, exploratory archeology project at Fort Moultrie. Such a full-scale archeological project should reveal far more data than has been revealed in this preliminary glimpse of the Fort Moultrie Site.

From the data recovered to the north of the present Third Fort Moultrie one fact becomes patently clear, and that is that the trash from all three forts on this site was thrown to the north of the north curtain wall, and as time passed and hurricanes and human activity resulted in soil build-up in this area, a classic stratigraphic sequence of midden deposits was produced, as revealed in the control trench discussed here. This stratigraphic document can only be revealed through the controlled, carefully executed stratigraphic excavation technique such as that used in this exploratory project. Stratigraphic data such as has been seen demonstrated in the present chapter does not emerge when only backhoe excavation is utilized. Such a technique has its use in a Phase 2 operation, but will not produce stratigraphic control data, or reveal midden deposits representing cultural activity on an archeological site. When used alone, without a stratigraphic control trench, the backhoe trenches may well be viewed by the archeologist as not being productive of meaningful stratigraphic data. This is not because the data are not there, but merely that the archeologist will not be able to recognize them due to the destructive nature of the backhoe operation. For this reason stratigraphic control trenches are a must for competent work.

VI

RECOMMENDATIONS FOR EXPLANATORY EXHIBITS AND FOR PHASE 3 AND 4 ARCHEOLOGY AT FORT MOULTRIE

From the exploratory archeology at Fort Moultrie the position of the first fort is known in relation to the existing third fort (Fig. 1). From the reconstructive architectural designs in Figure 1, details of construction are seen as never before illustrated prior to exploratory historical archeology. This study should allow scale models of the fort to be constructed. When a Phase 3 and 4 archeological project is undertaken, a complete look should be taken at the timbers and other data in the area of the timbers east of the third fort through a lowering of the water table on a 24 hour basis with the electric pumps of a well point system. There is little use in attempting further exploratory, Phase 2 archeology in this area, since the additional data recovery from such a project would not warrant the expenditure of funds. A complete stripping operation to the six foot depth of the timber as seen in Trench 90, would, however, allow a detailed examination through Phase 3 archeology, of the features and layers surviving in this area. Such a thorough examination is recommended. If such a full-scale archeological project is undertaken, with adequate research time and financial support, it should be so designed as to reveal additional information beyond that recovered in the exploratory archeology, to warrant the extensive additional funding for such a major archeological undertaking.*

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*Such a project was undertaken by John Ehrenhard and Dick Ping Hsu after the exploratory phase described here was completed.

If reconstruction is planned for the southeast bastion of the first fort, there would hardly be the necessity of attempting archeology in this ocean-ravaged area before such a reconstruction is executed. This can be seen from the data revealed in Figure 1, and could be verified through a lowering of particular areas with a well point system, but such a project would be quite an expensive undertaking in return for the data that might be expected to emerge.

The Second Fort Moultrie was clearly demolished in the early years of the nineteenth century, and any attempt to reveal large enough areas of this fort to be productive of new data would also be an expensive undertaking in time and funds. It is suggested that this fort be interpreted through appropriate trail-side exhibits.

The area north of the present Fort Moultrie, near the grave of Osceola, is an area where further archeology could be undertaken provided *archeological* hypotheses dictated by questions raised in the present exploratory phase of archeology on the site are the primary justification for such a project. No excavation should be carried out in this critical area of archeological values on a Phase 2, exploratory basis, or merely to answer questions on architectural curiosity. Architectural data can indeed emerge from this critical area, but they may well come primarily in the form of artifact distributions rather than in the presence of obvious timbers, etc.

In the area north of Middle Street, where remains of a split-palmetto palisade were found, further work should by all means be done before a visitor center is constructed on the site. Such work should not be in the form of further exploratory, Phase 2 archeology, but on the level of Phase 3 and 4, stripping of broad areas of over-

burden, and detailed excavation of features thus revealed (Introduction). A search for the canal beds in this area would prove nothing architecturally, except on a gross level, but would definitely reveal quantities of artifacts of the War of 1812 Period, as demonstrated by the stratigraphic control Trench 4 and 5 in the present exploratory project. Such a time-consuming effort, therefore, would not appear to warrant the time and expense necessary merely to search for more relics.

If the sidewalks paralleling the north curtain of Fort Moultrie are planned for removal, the First Fort Moultrie could well be exhibited here by means of a relatively shallow ditch and embankment to indicate the position of the First Fort Moultrie ditch lying three feet below. Such a feature could be accompanied by an interpretive exhibit. However, this would not be in keeping with the flow of traffic with the idea of a movement from the present to the past, so this alternative would likely not fit this interpretive concept.

This exploratory archeology project was designed to be merely a preliminary look at the First Fort Moultrie, with full-scale archeology to be carried out under a full schedule of funds and time following the discovery of the first fort. This more involved archeological project should reveal far more data than could be revealed in this preliminary phase of exploration.

The area inside the Third Fort Moultrie should reveal abundant data in the form of nineteenth century artifacts, particularly artillery shell fragments, perhaps whole shells, as well as pieces of artillery buried beneath the Civil War earthworks. A trench was originally planned from the cannon inside the fort toward the west in order to recover details of use to the historical architect in his drafting

of reconstruction drawings. However, this project was not undertaken in the exploratory project due to the primary emphasis on locating the first fort data. Such a project should by all means be undertaken before reconstruction work is undertaken inside the fort.*

In order to locate any second or first fort data it will be necessary to extend the depth of such work to a level some two to three feet below the present level of the floor of the entranceway. In conducting such work it will be necessary to use machines to remove the heavy burden of Civil War Period sand now covering this area.

* Such a project was undertaken by the National Park Service under the supervision of archeologists Dick Ping Hsu and John Ehrenhard and pieces of artillery as well as architectural features were revealed.

VII

SYNTHESIZING SUMMARY OF THE EXPLORATORY ARCHEOLOGY AT FORT MOULTRIE

In this report the emphasis has been on synthesis rather than analysis of archeological-historical data, with each section producing its own summary statement. The primary goals of the exploratory archeology project as outlined by the National Park Service contract have been fully met, *i.e.*, the discovery of the First Fort Moultrie, and the fixing of its position in relation to the Second and Third Forts Moultrie, and these results were discussed in the synthesizing chapters in this report. As the various chapters will reveal, the emphasis here has been on the ordering of data rather than mere description emerging from the historical archeology process. Hypotheses relating to specific problems, such as questions of architecture, of artifacts, the use of the South Mean Ceramic Date Formula, and the identification of American and British occupations on the site, have been dealt with in the sections dealing with these subjects.

Archeology at Fort Moultrie has revealed data in the form of features, ditches, timbers, palmetto logs, artifact distributions, etc., relating to architecture, and this has been integrated with the historical data to produce an historical archeology synthesis in the form of reconstructive designs relating to the physical location and architectural form of the First Fort Moultrie. These data should be extremely useful for accomplishing the interpretive goals of the sponsor of the project, the National Park Service. It should also be of value on a far broader scope, in conjunction with the report of the more complete archeological project to follow, to students of eighteenth century fortification architecture.

The integration of historical data with the archeological record has been carried out, with the resulting positioning of the three forts revealing a developmental architectural relationship between the structures never before demonstrated (Fig. 1). This important architectural relationship is related to the military demands required by all three forts positioned on the site. The emergence of the second fort of 1794 from the alignment of the first fort of 1776, results in the second phase of the second fort of 1796, which in turn predicated the present third fort of 1808. This evolution is revealed by archeology and an analysis and synthesis of the historical documentation.

The discovery of the location of the First Fort Moultrie was made in the exact position as predicted by the excellent research of Edwin C. Bearss, the only difference in his prediction and the archeologically revealed fort being one of orientation (Figs. 1 & 7).

The archeologically revealed artifacts associated with the architectural features were used to establish a chronological framework for the interpretation of these features and cultural layers. The artifacts also revealed direct historical data through the buttons for the identification of British, American, and militia units on the site, allowing for the identification of separate midden deposits for the two major occupations of the period of the Revolutionary War.

Through artifact synthesis, clues to the military class-structure of officers and soldiers were revealed, allowing for hypotheses relating to the interpretive prediction of the items of material culture discarded by officers as opposed to enlisted men when projected to other military sites of the Revolutionary War Period.

Buttons, ceramics, and other classes of artifacts associated with the First Fort Moultrie were used to make synthesizing statements relating to a temporal framework for the artifact class in some instances. One-hole bone discs, for instance, were demonstrated to have a Revolutionary War association, extending into the 1790's, during the occupation of the site by personnel at the Second Fort Moultrie. The four and five-hole bone buttons, however, were demonstrated not to appear until after 1800, nearer the period of the construction of the Third Fort Moultrie in 1808. This information as to the chronological position of one-hole button discs, and four and five-hole buttons supports observations of a similar nature made on many other archeological sites of the period. Such synthesized data has a far broader usefulness than merely for interpretation of the Fort Moultrie Site. Artifact synthesis is a valuable means for the determination of pattern from the remains of material culture, reflecting the unconscious cultural, structural patterning resulting from the behavior of the group responsible for the archeological record. This being the case, the unique object is of interest only as it provides cultural, chronological, areal, distributional, functional, environmental or processual data not previously known. The copper fastening plates for straps or collars found in the Second Fort Moultrie context, and apparently only found in such contexts ca. 1790 to ca. 1807, is a good example of such an artifact, being one of the few artifacts illustrated in this report (Fig. 56). With this example we can see how patterned data input into our data-bank of knowledge does not depend entirely on pattern as revealed by high frequency of objects.

The presentation of raw data is hardly useful toward the goal of determining pattern, since data must be synthesized and ordered with conjunctive relationships demonstrated, before meaning can emerge. When such a theoretical framework is used, data relating to chronology, function, contextual associations, class, status, social or military stratification, subsistence, etc. emerges.

There is no attempt in this report to present a massive body of descriptive drawings, photographs, and other detailed attribute analysis characteristic of the analytical process. Individual site data are often more productive through intra-site synthesis, than through artifact type analysis. This does not mean that analysis of artifact classes by detailed description of attributes should not be undertaken, on the contrary. However, such studies should be made on the broadest possible data base, and a few sherds of ceramics, glassware, hardware, buttons, etc., recovered from a site does not provide sufficient base for the *analysis* of these artifact classes.

With a proper construction of postulates and hypotheses, and with the description of the attribute clusters required for carrying into execution such an analysis of an artifact type, group, or class, data can be gathered from individual sites and statistically programmed to produce the best possible means for abstracting pattern from the remains of material culture. More such analyses should be conducted. This approach has been used throughout this report, producing a somewhat different product than is often seen to emerge from excavation of historic sites.

A final point to be made relative to the organization of the report presented here is that *there has been no assumption of a one-*

to-one relationship between the historical and archeological records. In several instances a comparison has been made resulting in a mutual exclusion of data sets, not a correlation.

A responsibility of the archeologist is to provide some guidelines for the sponsors of archeological projects toward their goal of interpreting historic sites to the visiting public. Such suggestions, however, are not the goal of archeology. Archeology does contribute to these goals, but they are secondary by-products of its primary function, *the integrative explication of patterned material remains of culture stemming from human occupation.* Such suggestions and recommendations for further archeological work beyond the exploratory phase, have been included as a part of this report.

This report has been constructed around the concept that archeology is a selective process, and has urged the systematization of our selectivity toward synthesis of archeological data. The archeologist as a scientist, is charged with making a responsible judgment with the best information he has. This report has been aimed toward this goal using the limited data to emerge from this exploratory look at the First Fort Moultrie.

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APPENDICES

APPENDIX I

PROVENIENCE CONTROL DATA FOR EXPLORATORY ARCHEOLOGY AT FORT MOULTRIE WITH DATA EVALUATION GUIDE

As each excavation unit was begun a provenience control number was assigned to it, with attached letters designating the stratigraphic level within the unit. Thus 5B has reference to Excavation Unit 5, Layer B. This provenience number is preceded by the state, county, and site number, which at Fort Moultrie is 38CH50. The 38 is the number for South Carolina, in an alphabetical ordering of states, the CH is for Charleston County, and the 50 is site 50 in Charleston County. Thus 38CH50-5B is placed on all artifacts from Excavation Unit 5, Layer B, and later in the laboratory, the catalog number is attached to designate specific artifacts.

As each provenience unit is assigned in the field, a 5" by 8" provenience card is also filled out to designate what the number has reference to. A data recording assistant is assigned to keep control of all such assignments of data, and this individual works closely with the archeologist and crew chiefs in this regard as data are recovered and provenience numbers assigned. At the Fort Moultrie exploratory excavation project this role was competently filled by Susan Jackson.

The location of any provenience area is seen by reference to the master plan and profile drawings accompanying the report on the project. The following listing of provenience units at Fort Moultrie is the record from the provenience cards kept by Susan Jackson, plus observations and comments made by the archeologist at the time the data are transferred from the cards to the list. This up-dates some of the data and observa-

tions made in the field, so that more recent observations are incorporated into the continuously accumulating body of information. Basic observational records do not, of course, change. However, interpretive statements relative to the data do change as increased understanding emerges, eventually resulting in a synthesizing report. The provenience cards, therefore, are the basic verbal comment upon which the report and synthesis is constructed, in conjunction with profile drawings, plan drawings, photographs, etc.

Some data are more valuable than others in terms of applicability to a synthesis statement emerging from the archeological process, and this more useful information is that upon which the archeologist builds his synthesizing report. All recording in the archeological process is selective, and archeologists are charged with making a responsible judgment with the best information available. This can best be done if we systematize our selectivity. With this goal in mind we evaluate each of our provenience units as to its contribution toward our synthesizing process, and those proveniences having the greatest number of areas contributing to this goal are those most dealt with in our report.

The following data areas emerge from the archeological process, and the degree to which a provenience unit contributes toward these areas is the degree to which it has potential value toward producing a synthesizing report. Generally, the more areas represented, the more value that the provenience unit has toward synthesis.

A = Architectural Data
B = Chronological Association of Artifact Classes, Features
C = Associative-Functional Data
D = Artifact-Feature Data
E = Stratigraphic Data
F = Spatial Associations
G = Artifact Analysis
H = Archeological-Historical Correlation

I = Cultural Patterning and Process
J = Environmental Data
K = Negative Data
L = Direct Historical Data

The 108 provenience units excavated at Fort Moultrie during the exploratory archeology project are presented here, followed by one or more of these letters relating to its research and synthesizing value. Only those high research priority units have been dealt with in writing this report. This procedure allows the archeologist to concentrate his synthesizing efforts on those data of most value, without involving himself with the description and illustration of data of low research priority. An * = photo on file, a + = profile drawing.

Provenience Control Data for Exploratory Archeology at Fort Moultrie with Data-Value Evaluation Guide

Provenience Number	Observational and Interpretive Comment	Data-Evaluation Guide
1	Surface material, and salvaged, non-context material recovered on the site.	-
2*+	Hand labor dug trench designed to examine the geological layering in this area of the site in relation to the water table, etc. This was the first trench excavated, which revealed a concrete storm drain with a metal cover, an oyster shell road bed, and a sidewalk near the north end. The trench began on the base line and extended toward the south 100 feet. The topsoil zone was .5 feet thick, and was composed of humus and clay, applied to stabilize the grassed surface. Only modern artifacts recovered.	A
2A+	Layer of sand directly below the topsoil zone, 2.9 feet thick, showing sign of water laid origin in the horizontal lines of light and darker sand.	
2B	Layer of white beach sand with metal	B, J

	artifacts of recent origin, at a depth of 3.4 feet below surface, including a piece of blue banded, annular whiteware, and a sardine can, indicating late nineteenth century at this depth at least. At the south end of the trench tilted bands of sand indicate wind blown sand deposits, and this was verified by the fine powdery nature of the sand. These tilted, wind-blown layers were intrusive into the horizontally laid bands of water deposited sand characteristic of the geology of the trench. The trench was not excavated deeper than the 3.5 foot depth.	
3*+	Hand labor cut Trench 40 feet south of the base line at R.P.2. The topsoil zone was 1.2 feet deep, being brown sand.	J
3A*+	This level is disturbed white sand from 1.2 to 2.4 feet from the surface, containing modern artifacts such as a machine stamped four tined fork.	J
3B+	This was designated to the 2.4 foot level of the trench on the basis on numerous nails (cut), spikes and rotten boards, and a portion of a Portland cement sidewalk. The late nature of all the data in Trenches 2 and 3 to this depth and deeper in Trench 2, resulted in excavation being moved to the area north of the Third Fort Moultrie in order to examine the geological layers there in relation to occupation data.	B, E, J
4*+	Hand labor dug trench five feet wide, 45 feet long, north of the sidewalk on the south side of Middle Street. This trench was designed as the stratigraphic control trench for this area of the site, with each layer from the surface down being water-screened using power screens with a 3/8" mesh. An architectural goal of this trench was to locate the canal known to be in this area. The entire length of the trench was stripped of the topsoil zone which was a black loamy layer containing twentieth century objects. At the layers below this the	B, E

trench was split into two parts, 4 and 5, to further control the stratigraphic data.

4A*+ & 5+	The layer beneath the topsoil zone was a gray-brown, sandy zone with brick bats and mortar fragments.	B, E
4B+ & 5B*+	The third zone from the surface contained brick bats and mortar fragments, and was a gray color, somewhat lighter than the "A" layer. Included in this layer is Feature 7.	B, E
4C+ & 5C+	This layer was a coarse light gray sand lying directly below the bricks of Feature 7, and above Feature 8.	B, E
4D+ & 5D+	This was a fine gray water-laid deposit above an oyster shell layer containing midden (Layer E) in Trench 5, but none in Trench 4.	B, E, J
4E+	This was a dark gray layer with humus beginning at the water table at a depth of 2.8 feet from the surface (A.E.4.3'). Excavation of this layer was not undertaken since it showed no signs of midden concentration as did Trench 5, where the water-lowering effort was undertaken.	B, E, J
5E*+	This layer was seen to begin five feet east of the west end of Trench 5, and was characterized by heavy concentrations of hearth ashes, oyster shell, brick bats, brown humus, food bone, ceramics, and military buttons of the period of the War of 1812. This black layer was only .3 feet thick.	B, E, J
5F*+	Below Layer E the soil was a gray color, much lighter than Layer E, containing less humus, but containing brick bat, oyster shell, bone, artifacts, shoes, buttons, etc. The water table was pumped down by using four well points in the west ten feet of the trench, and still the water came into the trench. A backhoe was used to dip out the contents of Layer F at this end of the trench to a depth of 7 feet, which is sea level, and at this point the midden deposit appeared to be replaced by a gray water-laid sand. The sides of the trench were constantly caving in from the water pressure, so a close look could not be taken at the bottom two feet of the deposit, though material was removed by backhoe and water-screened. It appeared quite obvious that this area is in the bed of the canal, but no clear edge could be determined under the conditions under which we were working. The fact that no eighteenth century artifacts were found in the canal caused us to shift our efforts further toward the west, where the eighteenth	B, E, J, H

century midden and first fort were located.

5G	This material was taken from the area just east of the ditch crossing Trench 5 near the center. The backhoe was positioned over the trench and the deposit below the water level was removed by this means and water-screened as 5G. This was done to see if the midden deposit extended to considerable depth in this direction, and to recover a larger sample of the material from the body of the canal. The edge of the canal was not seen, but from the similarity of artifacts and the nature of the fill it would appear that the canal extended in this direction. The fact that it was not seen in Trench 14, would tend to indicate that the actual edge of the canal occurred somewhere between Trench 14 and 5. The large piles of dirt to the north of this trench collapsed the entire north profile into the trench, almost carrying the backhoe with it. After this happened we pulled out of this area and backfilled the trenches for safety. The 5G material equates with the 5F material in context, and appears to contain artifacts, buttons, etc. from the War of 1812 period, as does that from 5F.	B, E, J, H
6*	On the south side of the Third Fort Moultrie a backhoe trench was cut in an effort to locate evidence of the edge of the Civil War abatis known to have been in this area, and to see if any indication of brick work for the second fort could be revealed. An abatis was found paralleling the south wall of the third fort, and since the water level had been reached at this 4.5 A.E. level, no further depth was attempted. Later, when an interpretive placement of the location of the Second Fort Moultrie was made, it was seen that this trench had passed directly over the site of one of the wells, but the depth had not been sufficient to expose any brick work that may have remained <u>in situ</u>. Later, at the insistence of representatives of the National Park Service, a large hole (Fea. 70) was dug inside this abatis line in an effort to locate the wells, and in this project pumps were used to lower the water to sea level. (See Provenience Number 70 for further discussion.)	A
7+	This feature was a depression extending from the northwest profile of 5B and down the center of Trench 4B, at the 1.3' depth. It appeared to be a brick bat walkway covered with coal ashes.	C

8*+	This feature was a brick and mortar layer from salvaging materials from a structure, which covers most of Trench 4 and the east end of Trench 5 just below the "C" layer. Feature 9 ditch intruded through this rubble layer.	B
9*+	Ditch beginning at 1.3 below surface in the junction of Trench 4 and 5, containing a brown salt-glazed stoneware drain pipe with "STEVENS SONS MACON G" impressed into it. The ditch originates out of Layer 4C, and intrudes into Feature 8.	-
10	This backhoe cut trench was excavated by the Superintendent of the Fort Moultrie site, Bill Harris, under the direction of the Historical Architect for the National Park Service, John Garner, in an effort to determine the depth of the Third Fort Moultrie. The trench was dug against the curtain wall of the Third Fort Moultrie near the junction with the reentered angle of the northeast bastion. This trench revealed two features, one a concrete foundation, probably for the generator building shown in a photograph of ca. 1915 (Bearss 1968b), and beneath this a brick footing 1.6 by 2.5 feet oriented at a diagonal angle to the Third Fort wall. When the position of the First Fort Moultrie was established from data from the area east and north of the Third Fort Moultrie, it was found that this brick footing was in perfect alignment with the First Fort Moultrie, but sitting twenty feet to the north of the face of the 1776 parapet of the first fort. This footing may well be from one of the buildings said to have been outside the fort in 1777 (Bearss 1968c: 35-36;Pinckney 1777, 1906: #3, 130).	A, H
11	Backhoe trench extending from east of the Patapsco Monument to the entrance walk of the Third Fort Moultrie. Only yellow sand seen at the eighteenth century level, apparently being fill in the Third Fort Moultrie moat. A cannon ball base shown on a photograph ca. 1915, and bricks from a curb were found just below the surface at the east end.	A
12	At the bottom of Layer 4C, near the east end, a layer of non-mortared bricks was found, that appeared to be a walkway. This feature lies to the east of Feature 8.	A
13*+	Eastern backhoe extension of Trench 4, revealing a flagstone covered drain of the mid-nineteenth century. Trench 13 was offset when this drain	A

was discovered, being positioned a few feet to the north, and extending to the east to a point just north of reference point #9. No features were seen other than a dark humus layer at the east end, filled with sticks and wood chips, appearing to be a marsh peat. (Fea. 16).

13E+	This layer was removed by hand labor after the backhoe had removed all layers above. It was characterized by being dark brown in color, and filled with brick bats, oyster shell, and ashes from wood fires (hearth ashes), and contained midden material from the period around 1800. The layer begins at a depth of 2.8 and extends to water table level at 3.6	B, E, H, J, K
14	Backhoe trench cut west of Trench #5 to a depth of five feet revealed a brick bat rubble layer in the bottom two feet, resting on water laid sand. The rubble layers sloped toward the east, as though a deeper area lay in that direction, but no edge of the canal was seen, which was the reason this trench was cut. The west edge of the canal probably lies between Trench 14 and Trench 5.	E, K
15	Backhoe trench cut north of Trench 13, revealing a railroad rail from the street railroad shown on maps of 1897 and 1915. A drain pipe extended across the center of the trench.	H
15E	The bottom layer of brown midden with ashes from hearth fires was removed by hand labor and water-screened, revealing artifacts from the period of the War of 1812. This layer was removed only in the west half of the trench. The east half was too wet, standing beneath water as long as the trench was open. The edge of a peat layer was seen in the center area of the trench, generally correlating with a ravine shown on the 1796 Purcell Map of the site. This ravine probably accounts for the water problem in the east end of this trench.	B, E, F
16	The east half of Trench 15 was constantly wet and standing water, even when well points were used with pumps. Near the center of the trench the edge of a wood chip filled area was seen, which appeared to be the edge of a peat area, or marsh, into which wood chips were deposited, probably during the construction of the Third Fort Moultrie. This peat or marsh edge correlates with the ravine shown on the 1796 Purcell Map of the site, and is designated as 16.	H, J
17*+	A long backhoe trench was cut south of the sidewalk	A

	and west of the entrance walk for the Third Fort Moultrie. The backhoe removed the material from all layers down to the layer of black midden and oyster shells seen at a depth of three feet. This trench was later divided into three sections for removal of this midden deposit layer. To get at this deep layer of cultural material it was necessary for the backhoe to remove a brick roadway thought to date in the 1870's.	
17E*+	This oyster shell midden layer in Trench 17 was removed by backhoe after the upper layers had been removed to this level, so some contamination may well be expected. The midden is eighteenth century, and contains one button with the raised "2" from the South Carolina Infantry. The material from above the 3.3' level from the surface in the midden deposit was removed by backhoe, that below by hand labor.	B, E, G, L
17F+	Black ash layer and oyster shell midden from Trench 17, which was removed by hand labor, after the upper part of the midden deposit was removed by backhoe as Layer E. Contains a "2" button from the Second South Carolina Infantry Regiment at the site from 1776 to 1780. The deposit was intruded on by the abatis Trench 38, and can be expected to contain some contamination by that means.	B, E, G, L
18*+	One inch above the 18E Layer of eighteenth century midden a grapeshot was found, and assigned this number.	G
18E*+	This midden layer was removed from the west fifteen feet of Trench 18, over the intrusive ditch with palisades thought to date from the 1883 period. This deposit of midden was cut into by this later feature (21), and therefore could well be contaminated by this later intrusion. A "2" button of the Second South Carolina Regiment at the fort from 1776 to 1780 was recovered from this layer.	B, E, G, L
18F+	This deposit is the bottom of the midden layer in the west fifteen feet of Trench 18, isolated from the "E" layer in the hope that it might be less contaminated, but later it was discovered that the intrusive ditch of Feature 21 had cut through the entire midden deposit, thus introducing the very real possibility of contamination.	B, E, G, L
19+	Hand labor cut trench east of Osceola's grave designed	A

	to cut across the 1860's abatis, and the ditch edge for the First Fort Moultrie. A nineteenth century brick footing was found at the south end of the trench paralleling the curtain wall of the Third Fort Moultrie. Palmetto deadman seen in the abatis ditch.	
20	Hand labor cut trench west of the gate monument to the north of the Third Fort Moultrie northwest bastion.	-
21*	Large timbers one foot square set in a row on a smaller squared timber half that size, fitted to the horizontal timber by a notch on the butt end of each of the large palisade timbers. The smaller supporting timber is resting on board pads placed at intervals to support the weight of the palisade in the wet ground. This system allows the squared palisade timbers to be placed in position quickly by means of the notch on the butt end and thereby aligned exactly both in height and along the line of the palisade. This palisade was found at the western end of Trench 18, fifteen feet north of the salient angle of the northwest bastion of the Third Fort Moultrie, and parallel with it. A four-hole metal button and a grape shot were found in association with the palisade timbers. This palisade is shown in plan and profile on a map made by Capt. Eliason, who built the palisade in 1833 (Bearss 1968b: 71, 74). The palisade was eight feet high, and was completed on the land fronts of the fort by September 30, 1833, as a protection against possible attack by enraged South Carolinians disturbed with the federal government. Along the south edge of the palisade ditch the edge of a moat for Fort Moultrie III is seen, containing a whole wine bottle. This moat was probably dug in 1860 (Bearss 1968b).	A, C, D, H
22F*+	This provenience area was the bottom layer of humus and midden in Trench 22, lying just above the ditch of Feature 27. However, the backhoe had removed the majority of any deposit here, and had cut deeply into the remaining deposit, presenting a contamination problem since bits of grass etc. were found in the teeth scars in the sand beneath the "F" layer in this trench. Analysis of this material, therefore, is suspect if later objects than the eighteenth century appear, some of which were seen in the process of excavation.	-
23	A ditch or pit edge seen along the north side of the bottom of Trench 17. Oyster shell midden was concentrated along this side of the trench, and above this feature. It was not until the midden	A, B, D, E, F, G

deposit was taken somewhat into the ditch that the oyster shell deposit began to disappear and the gray sand fill could be seen. This ditch may well be an extension of the entrance wall ditch of Feature 47 to the west. The "F" layer was the oyster shell midden deposit immediately above this feature, which was still visible after all the midden deposit had all been removed from the south side of the trench at the same level. The association of midden with the feature therefore, is a positive one, with the midden apparently sinking into a sand filled feature as the feature settled, allowing midden thrown in the immediate vicinity to settle into the depression. A similar situation was seen in relation to Feature 47. This feature and Feature 47 were at first thought to relate to a cavalier associated with the north bastions of the first fort, but in light of further data this hypothesis was abandoned in favor of this interpretation, an interpretation that accommodates the greatest amount of archeological data.

24	This feature appeared to be a ditch intruding into Feature 23, and proved to be only .1 foot deep after it was first seen at the bottom of the excavated Trench 17.	A
25	This feature is a square hole containing rubble that intruded into Feature 47 in Trench 17. It also intruded into midden Layers 17E and 17F.	A, G
26+	This feature was located on the south side of Trench 17-18 at the junction of the two provenience areas. It emerged from the eighteenth century midden layer at the bottom of the trench, and was a square hole one foot on the side, with whole and partial bricks placed around a wooden post. The bricks were stacked two deep at least, and for this reason it was referred to in the field as the "flagpole" hole. Such firm chocking with bricks in such a regular manner around a post seemed far more than ordinarily is found with fence posts, for instance, and resulted in the field interpretation as a flagpole base. When other archeological data positioned the interpreted parapet and the gate was positioned on the basis of historical maps, with supporting data from archeology, this "flagpole" hole was found to be located in a position quite advantageous in relation to the gate of the first fort. This feature is seen to be just south of the entrance blind wall and centrally located in	A, B, C, D, E, F

relation to the fort gate. With this in mind, the feature may well represent a regimental banner or flagpole. Its alignment is parallel with the position of the parapet of the first fort, which therefore places it architecturally in association with the first fort.

27*+	Ditch seen at the bottom of Trench 22, containing fragments of palmetto logs, with a dog burial beneath one of the logs. One log preserved in the field with polyurethane resin. The same ditch shows up in Trench 19 and 39, but was not excavated in those trenches. The color of the soil is a lighter gray color than is seen in the same ditch north of Trench 22, and contains few brick bats, and fewer artifacts. Eighteenth century midden from this area of the ditch and area 37,68,56 and 75 to the north, dates from the 1780's. The ditch has a layer of gray sand with bands of sand indicating water deposition in the bottom, in which chips of palmetto and pine, ax cut, are found in considerable quantity, indicating that hewing, notching, and working of palmetto and yellow pine logs was being carried out at the time the ditch was first opened. The water-laid bands of sand among the chips indicates the quicksand nature of the bottom of the ditch at the time it was dug, thus making it a moat, in effect, rather than a "dry" ditch.	A, B, C, D, E, F, G, H, J
28	This large cypress log was found in Trench 22, lying beneath the eighteenth century midden level, and beneath water-laid deposits of sand. Oyster shell in gray sand was found beneath the log, but no cultural material was associated with it. It is part of the geological layering on the site prior to the occupation of the Revolutionary War period. A similar log was found in Trench 18.	J
29	Hand labor cut trench north of Oceola's grave to check for possible continuation of the cypress log (Fea. 28).	K
30+	Backhoe cut trench north of the sidewalk, north of Trench 17. This trench was later divided into three separate proveniences at the "E" layer level to divide the eighteenth century midden deposit.	A
31*+	Backhoe cut trench at the junction of the entrance walk to the Third Fort Moultrie, and the sidewalk, revealing two ditches, (Fea. 40 and 41), and a pit (Fea. 42). Sewer pipe at west end.	-

32E*+	This midden deposit was removed from the bottom of Trench 32, above the moat ditch and the area of the abatis ditch in the west end of the trench. Considerable disturbance of the west end of the trench was noticed, with two posts still in position, not in the line of the abatis seen in the other trenches, but in line with the axis of the trench. This disturbance and the two posts may well be a later disturbance than the abatis, but in any event one that may well bring into the "E" layer some contamination from a later time period than the midden deposit. One button with a relief "2" of the Second South Carolina Infantry was recovered in this layer, providing a direct historical clue to the origin of the midden deposit. A solid shot cannon ball was found lying on the clean white sand just west of the fort moat, between it and the disturbance at the west end of the trench. The fact that it was lying beneath the Revolutionary War midden is clear indication of its association with the first fort. A much larger frequency of Colono-Indian pottery appeared in this layer than was noticed on the south side of the sidewalk.	B, E, G, L
33E+	This deposit of midden came from the bottom area of Trench 33, and contained Colono-Indian pottery, oyster shells, bone, delft, faience, and creamware. Since the backhoe removed the layers above this level there may be some contamination in this layer. When this deposit was removed to clean sand, a large depression was found to be containing a further deposit of the same type midden. This depressed area filled with midden was designated 33F. The 33E layer contained a number of civilian buttons of the eighteenth century, but no military types were found.	B, E, G
33F *+	This deposit of midden lay beneath the "E" layer in Trench 33, and formed a basin shaped depression. The deposit contained large amounts of food bone, Colono-Indian pottery, etc. It was observed that there seems to be more colono-Indian pottery here, with a decrease in the percentage of fine china, when compared with the eighteenth century midden deposits in the "E" layers in Trenches 17-18-22 to the south of the sidewalk. Perhaps this increase of colono-Indian pottery may reflect a midden deposit of enlisted men as opposed to officers, especially in view of the decrease in	B, C, D, E, F, G, H

fine china in this deposit. However, this may merely reflect the presence of Indians on the site with the Americans who dumped the midden (no British data was found here). The Indians were probably Catawba, who were allies of the Americans during the Revolution. So much Colono-Indian pottery prompts us to want to go into the analysis and association of this type artifact, not only as seen on this site, but on other sites of the Revolution.

34E	A dark humus layer in Trench 34, centering around the root humus for a palmetto tree once growing in the area. The artifact accumulation on this old surface is much less than is seen further to the west.	F, J
35*	Backhoe cut trench north of sidewalk and Trench 31, revealing the rubble filled ditch of Feature 41, and a humus, wood chip and stick filled area from an old marsh.	A, J
36*+	Backhoe cut trench to north of the large cannon mounted on the lawn to the northeast of the entrance of the Third Fort Moultrie. A brick drain is probably one mentioned in Bearss 1968b as being necessary to drain the interior of the Third Fort into the cove in 1825. It apparently went into the head of the canal, which was not filled until 1828, according to Bearss 1968b. The south edge of a depression was revealed in this trench, with a clay-capped edge along the south edge of the trench. Two wooden pegs were found beside this clay-capped edge that may have been used to lay out the line for this feature. To the east of the brick drain the clay cap was not seen, with only sand fill being present. A great quantity of bricks were recovered from the fill of this trench. The depression along the north half of the trench appears to turn toward the north at the west end. The depression was designated as Feature 60, and contained faience and a few other clues to eighteenth century origin for the depression (see Fea. 60). The contrast between the clay-capped edge and the depression of Feature 60, and between the east and west sides of the drain, are functionally related features not fully understood without further archeology in the area.	A, B, C, H
37*+	This is the fort moat in Trench 32, which is characterized here by black humus fill with a	A, B, C, D, E, F, G, H

heavy concentration of brick bats. A Brown Bess musket barrel was found in this ditch fill, and was covered with black powder, as well as having pockets of black powder throughout the ditch fill. An ax head, bone, and other artifacts, including numerous bone button blanks made from ribs and scapula were also found in the fill of this ditch. There appeared to be a heavier concentration of artifacts along the western side of the ditch, with the eastern edge being apparently undercut in places, leaving a profile that revealed no clearly definable edge. Buttons from the Royal Welsh Fusileers and the 63rd Regiment of Foot were found in the ditch fill, associating the fill with the known period of British occupation on the site from 1780 to 1782. J, L

37A+ In the bottom layer of the ditch a gray sand with some oyster shells was seen, containing some brick bats, and many wood chips of palmetto and pine, but containing very few artifacts. -

38*+ This feature is an abatis formed of yellow pine posts with the bark still remaining, that is seen in Trenches 17, 19, 44, 46, and 48. Samples were removed from Trench 17, and the ditch was excavated in this trench, but only artifacts from the period of the midden were recovered. The trench clearly intrudes into the eighteenth century midden deposit, and the palisade is seen to originate from just beneath the brick roadway in Trench 17, thought from its stratigraphic position, and artifact association to date from the period around the 1870's. Since the identical type of yellow pine palisade posts were found in Trench 6, on the south side of the third fort, and parallel with the face of that fort, and since photographs of the 1860's reveal an abatis identical to that found in Feature 38 and 6, the abatis has been interpreted as dating from the 1860's period (Bearss 1968b). This abatis parallels the Revolutionary War moat ditch, and from parallelism alone we might suspect a temporal connection, as well as from a functional point of view. However, the fact of intrusion into the eighteenth century midden deposits, the identical comparison with posts known to be an abatis of the Civil War period, the origin just beneath a brick road thought to date from the 1870's, all point to an 1860's date for this abatis. The fact that in each of the eighteenth century deposits over which this ditch crosses there was found a very slight artifact contamination by artifacts from the mid-nineteenth century is additional A, B, C, D, E, F, G, H

support for its dating from that time period. The isolation of this ditch from the eighteenth century midden deposits in Layers E and F was not possible in some cases because of the fact that the abatis ditch was backfilled with the same midden taken from the "E" layer as the abatis ditch was dug, therefore tending to blend the fill of the ditch with the midden deposit. It was only after quantities of the eighteenth century "E" layer had been removed in several areas that the intrusive nature of this ditch was recognized and isolated to prevent further contamination of the "E" layer. In Trench 46, however, the intrusive nature of the abatis ditch was clearly seen, due to the less dense concentration of eighteenth century midden in this area, allowing the intrusive ditch to become backfilled with a higher percentage of gray sand rather than almost total midden from the deposit of Layer E.

An additional important piece of negative data relates to the dating of the Feature 38 abatis, and this is seen in Trench 74, where no abatis was found west of the ditch (Fea. 75), in a place where it might be expected if the abatis was associated with the first fort moat. If, however, the abatis was of the Civil War period, as most of the data indicates, then the abatis would not be expected to occur in the area west of Feature 75, and this is the case.

An abatis called a "picket fence" was constructed around the fort by Federal authorities in 1860, and the drawing of this fence (abatis), reveals the same "V" shaped configuration along the north face of the fort as found archeologically, complete to the assymetrical alignment with the north bastions (Scott 1880:181). This documentary correlation with the archeological record clearly reveals the 1860 origin of the abatis considered here. However, in Trench 44, the abatis appears to be sealed beneath two layers dating much earlier than the Civil War period, and in this trench the abatis found may well be from the second fort, and not a continuation of the 1860 abatis of Feature 38 (See Provenience Number 53 for discussion).

39*+, E+, F+ Hand labor dug trench to the west side of the entrance walk to the Third Fort Moultrie, revealing stratigraphic layering of particular interest in that there are two layers of oyster shell midden separated by a sand lens. Only the bottom layer was sifted using the water-screening method. Beneath this "F" layer the moat for the First Fort Moultrie was located. This trench also revealed a brick curbing thought to be seen on a photograph taken — A, B, E, F, G, H

in the 1860's, revealing that the curb apparently dates from that time (Bearss 1968b). The contents of the moat ditch were not taken out here, but the fill of the ditch was dramatically reduced in artifacts and rubble as compared with the same ditch fill in area 37-56-68.

40	This feature is a ditch in the west end of Trench 31, west of Feature 41. It is filled with brick rubble, and contains artifacts from the eighteenth century, however, its alignment is virtually a 90° angle to the north curtain wall of the Third Fort Moultrie, and no doubt dates from that time period.	A, B
41*	This feature is a ditch filled with rubble seen in Trench 31 and 35. It is in parallel alignment with Feature 43 in Trench 34, and sixteen feet from it. These ditches may therefore be related functionally, and most certainly chronologically. Their perfect 90° alignment with the salient angle of the northwest bastion of the third fort ties them to that nineteenth century fort and not to the First Fort Moultrie.	A
42*+	This circular pit was thought from its black, humus type fill to have possibly been a privy, and indeed a skeleton of a rat was found in the fill, along with fragments of creamware and pearlware. It therefore would date from the 1780's at least, and functionally could have served as a well hole with a barrel liner, such as Feature 59 and the hewn-barrel well found in Trench 74, however, no evidence for such a liner was seen in Feature 42.	A, B, C, D, E, G
42A	This letter was assigned to the fill of Feature 42 in the anticipation of several stratigraphic layers being forthcoming from the feature, but the feature was only a few tenths of a foot deep, so this provenience is all the material coming from the feature.	B, C, G
43	This feature is a ditch seen in the eastern edge of Trench 34, containing brick bats and oyster shell. It perfectly parallels the ditch of Feature 41 to the east a distance of sixteen feet, indicating an architectural relationship. The fact that both Feature 43 and 34 are at a 90° angle to the salient angle of the northwest bastion of the Third Fort Moultrie implies a direct architectural relationship, and thus a temporal relationship to the Third Fort Moultrie	A

for this feature. The contents were not excavated.

44*+	This trench is a hand labor dug hole to the east of the entrance walk to the Third Fort Moultrie, dug to try to follow the moat for the First Fort Moultrie. However, the ditch did not continue in this trench, giving rise to the speculation that it had turned toward the south. This interpretation was used in the preliminary report on the project, before all the data was available. The trench did reveal a yellow pine abatis with posts parallel with the curtain wall of the Second and Third Forts Moultrie, and sloping toward the north. In the northeast profile near the bottom of the trench the remains of a barrel with staves was found, and has been interpreted as a well liner. The well could have been between the gate of the third fort and the canal in the early nineteenth century, or may have been outside the original First Fort Moultrie, serving the huts known to have been outside the fort to the north (Bearss 1968b). Phase 3 archeology will be necessary to determine more details of this feature. However, the well appears to emerge from the "F" layer, which is the lowermost artifact bearing layer in this trench. "E" and "F" layers were recovered here, both containing oyster shell midden, and the "E" layer in this trench was apparently of the period of the War of 1812, whereas the "F" layer contained eighteenth century artifacts. This trench also contained a brick curb near the surface, as did Trench 39, and this curb apparently is seen in a photograph of the 1860's, and should date around that time (Bearss 1968b).	A, B, C, E, G, H
44E*+	This letter designation was assigned to the upper of two oyster shell bearing layers near the bottom of the trench, containing artifacts that date from the 1790's.	B, E, G
44F*+	This was the bottom layer of oyster shell midden in Trench 44, and contained Revolutionary War period ceramics. The layers above E and F were thrown out and not water-screened, as were these two layers. The early ceramics here may well be associated with the first fort ditch across the entrance walk.	B, E, G
45	This feature is a late pit in the north profile of Trench 22, containing nineteenth century bottle fragments.	G

46*	Backhoe cut trench east of Osceola's grave revealing the 1860's abatis and the south edge of the moat for the first fort. This trench was taken to the top of the "E" layer of midden by backhoe, and then by hand labor to reveal the "E" layer and features. The abatis ditch revealed a deadman, and a clear intrusive line into Layer E, which contained eighteenth century material.	A
46E	This layer of eighteenth century midden, with some pearlware, was removed from over the ditch and area to the west of it in Trench 46. The intrusive nature of the abatis ditch was clearly demonstrated in this trench as it cut across the midden deposit of 46E. However, as the deposit was removed toward the south of the trench the artifacts dramatically decreased in numbers, until at the edge of the Third Fort moat, there was only a black humus layer representing the surface of the ground at the time the Revolutionary War midden was thrown on the area. This dramatic change in artifact distribution was not understood until the positioning of the first fort parapet was effected utilizing architectural data to the east of the third fort and the moat ditch. When this parapet was positioned, it was seen that the artifacts could not have been thrown at the south end of Trench 46 area in the 1770's because the parapet was positioned at that point. The midden deposit here resulted, apparently, from midden being thrown from the top of the parapet outside the walls of the fort. However, the midden deposit here was much less here than nearer the fort gateway, on the north side of the entrance-blind wall.	A, B, C, D, F, G, H
47*	This feature is a ditch running along the north edge of Trench 17 and 18, containing a badly rotten timber. A companion ditch is Feature 23 to the east, and both of the ditches were filled with gray sand, but this could not be seen until the heavy midden concentration above them was removed. The eighteenth century midden deposit was concentrated over these two features, and was virtually non-existant on the south side of the trench, clearly indicating a direct association between the midden and these ditches. Profile drawings of both the north and south sides of the trench at this point illustrates this fact. As Layer E and F were removed from the trench there was still a concentration along the north edge above these ditches, and this remaining midden was designated as Features 23 and 47. It was not until this midden was removed that	A, B, C, D, E, F, G

it became clear that the midden had settled into the ditch area after the timber had rotted and the ditch slumped downward, carrying with it the associated midden deposit. The fact that the midden is so heavy above this ditch, and so thin south of the ditch points to a major above-ground feature in the ditch over which, or against which midden was thrown on the north side only. A timber wall set into a ditch would meet this requirement of the archeological data, and the function of a wall in ditch was seen to correlate with the documented position of the First Fort Moultrie entrance gate once the position of the north curtain wall was established through a correlation of the moat ditch and timber Features 91 and 97 to the east of the Third Fort Moultrie. With the interpreted wall required by the associated archeological data falling at an angle to the entrance to the fort, it becomes apparent that Feature 47 and possibly 23 as well, probably represent a protective entrance-blind wall of timber designed to prevent a direct firing by an enemy into the entranceway of the fort. Such a wall would act as a ravelin or demi-lune to cover the entranceway to the fort, allowing troups to sally forth during battle if necessary under cover. There may well have been a companion, obtuse angled wall accompanying this one forming a typical ravelin "V", but excavation was not carried out in the area necessary to test this hypothesis. The fact that the midden deposit containing large quantities of bone, oyster shell, broken ceramics, wine bottles, etc. as well as buttons from the Second South Carolina Infantry Regiment were thrown to the north of this wall, clearly indicates a functional difference between the south and north sides of this feature.

48	A backhoe cut trench south of the curb to Middle Street, to the north of the northwest bastion of the Third Fort Moultrie. This trench revealed the first fort moat and the 1860's abatis.	A
48E	The oyster shell midden layer lying immediately above the ditch of Feature 56, in Trench 48, intruded on by the abatis ditch of Feature 57. Removed and water sifted by hand labor. The artifact concentration thinned out at the west end of the trench, being primarily a humus concentration to the west of the abatis ditch. Two "2" buttons of the Second South Carolina Regiment were found in this layer.	B, E, F, G, L

49	A backhoe cut trench to the west of the northeast bastion of the Third Fort Moultrie, containing two service pipes (telephone, electric, etc., and sewer pipe), and a ditch thought to possibly be for the abatis interpreted as from the 1860's period.	A
50	The abatis in Trench 46, thought to date from the 1860's. (See Provenience Number 38 for discussion) The intrusion of this feature into the eighteenth century midden deposits (Fea. 46E) was clearly seen in this trench.	A, B
51*	This number was assigned to a large blue edged pearlware plate fragment found in the layer immediately over the moat ditch in Trench 46. It should be considered as coming from 46E for purposes of analysis. It was assigned a number because of its virtually whole condition.	B, G, D
52F*	This deposit of midden was isolated by hand labor by removal of an offset to the west area of Trench 18 toward the north from that trench. The top layers were thrown off, with a careful leveling-off at the top of the oyster shell midden layer. This layer was then removed as Layer F. This midden revealed a large quantity of oyster shell and bone midden, including two of the relief "2" buttons of the South Carolina Infantry Regiment, and an oval sleevelink with a red background and the gilt bust of a man, and the words "Prince W", apparently in reference to the Prince of Wales. This is the only British associated object from any of the midden deposts in this area outside of the fort moat itself, the moat being the only place where British buttons were recovered. Large quantities of Colono-Indian pottery were discovered here also, as well as a number of civilian type buttons of the eighteenth century. A cannon ball was also found here, beneath the eighteenth century midden. In the northeast corner of this trench, beneath the midden deposit, a black humus layer was found, containing no artifacts at all. This layer is clearly the old humus layer on which the midden was thrown in the 1770's. Beneath this humus layer a cypress log was found, complete with roots, clearly pre-dating the humus layer and the midden deposit, revealing the geological nature of the tree. Toward the west in this trench the artifacts began to thin out in the depth of the deposit, presenting a dramatic contrast with the quantity seen in the east end of the trench. In view of the architectural positioning of the parapet of	A, B, C, E, F, G, H, L

the first fort and the relation to the fort gate and the ditch interpreted as the entrance-blind wall, this artifact distribution makes an interesting contribution to this interpretation. The midden would have been thrown in the corner formed by the entrance-blind wall and the parapet wall at the entranceway to the fort, a very logical place to throw garbage when bringing it outside the fort to dispose of it. The concentration of midden in the east end of Trench 52, is a dramatic artifact distribution support for the architectural positioning of the parapet and gate of the first fort arrived at by means of other data. In fact, the entire concentration of midden in a circular area outside the gate and north of the entrance-blind wall is dramatic artifact distribution data for the validity of the architectural positioning of the first fort. With this data in mind, any future work can be carried out within a research design dictated by the hypotheses generated by this exploratory archeology. If the sidewalk were removed, and the area examined through Phase 3 archeological methods, more data relating to this interpretation would indeed emerge.

53	This feature is the abatis in Trench 44, interpreted as a continuation of the abatis seen in trench 17, 19, and 46. It parallels the north curtain of the second and third forts, and therefore would appear to be from one of these structures. However, Layers E and F contain ceramics of the eighteenth and early nineteenth century, and Feature 53 abatis does not appear to intrude through these layers. More work needs to be done in this area to determine if the abatis of Feature 53 is indeed of the second fort, early in the third fort, or is of the period of the 1860's as is Feature 38. (See Fea. 38 for discussion.)	A, B, C, E, H
54	A hand cut trench east of the cannon in the yard, revealing a large terra-cotta (salt-glazed stoneware) pipe.	-
55*	This hand labor cut square was cut in the center of the entrance walk to the third fort in an attempt to follow the first fort moat ditch, but one foot down a brick roadway was seen, with bricks nicely placed on edge and rather than destroying this roadway (under the possibility that it might be used in a future interpretation), the hole was backfilled without disturbing the bricks.	A

56+	The fort moat in Trench 48, which is a continuation of Features 27, 37, 68, and 75. Most of the artifacts appear to concentrate on the west side. The ditch fill is a lighter gray sand on the eastern side of the ditch as well. This data correlates with what was seen in the ditch at Feature 37. British buttons from the 19th, 30th, 37th, 62, and 63 Regiments of Foot were recovered from the ditch in this area, clearly revealing the British association with the midden deposited here, during the period of British occupation from 1780 to 1782, and providing direct historical documentation for these regiments at the fort. A button with a raised "2" was from William Moultrie's Second South Carolina Infantry Regiment, parts of which occupied the site from 1776 to 1780.	A, B, C, D, E, F, G, H, J, L
57	This feature is the intrusive abatis palisade and ditch seen in Trench 48, and also in Trench 17, 19, etc. (See Provenience Number 38 for discussion.)	A, B
58*+	This area was excavated by hand labor to the north, off of Trench 36, in order to attempt to see if the depression of Feature 60 had an inside edge. This was done when the hypothesis was being entertained that the south edge of Feature 60 was a ditch similar to the moat for the first fort, and possibly represented the area of the neck of the northwest bastion of the first fort. The excitement ran high when an angle was indeed seen turning toward the north. However, upon closer examination it was seen that this line represented only a thin lens of white sand overlying a darker layer in the depression, and that the entire area of Trench 58 was a depression represented by Feature 60. This feature contained very few artifacts, but a piece of faience and other ceramic fragments were from the eighteenth century, revealing that the depression was likely filled before the advent of pearlware, probably by the 1780's.	K
58D	A level of oyster shell and brick bat, with signs of burning of a structure in the area, charcoal, scorched sand, etc. The layer contains pearlware and creamware, and bone button blanks, and appears to date around 1800. The layer begins at the level of a board running across the trench east-west, that appears to be a sill for a structure. This is above the darker 58E layer, thought to be of the Revolutionary War period.	A, B, D, G

59 *+	This feature is a stave type barrel seen in the northeast profile of Trench 44, thought to be a well. The well barrel emerges from the "F" layer, which is the deepest artifact bearing layer in the trench. Two feet from the top of the barrel the bottom was struck with the probe, but the contents were not removed. A white sand pit outline was seen outside the barrel. (See Provenience Number 44 for further comments.)	B, C
60*+	This feature is the depression in Trench 58 thought to represent a Revolutionary War feature as indicated by the ceramics. At first this was thought to be a ditch, but upon examination of the profile on the west and north sides it was determined that it was a depression over a large area, possibly resulting from the obtaining of soil for filling palmetto cribs, or for some function associated with the building of the canal.	B, C, D, G
61+	This hand labor cut trench was dug to see if the clay-capped edge of the depression of Feature 60 was still continuing in this eastward direction after disappearing east of the drain in Trench 36. The depression was seen to continue here, with hot ashes having been dumped on the clay-capped edge, forming a brick-hard surface from the fired clay. The ashes dumped here contained sherds from the 1790's providing a later date for the exposure of the clay-capped surface than was obtained from Trench 36. The area east of the brick drain in Trench 36 is seen as a passageway area between the gate of the third fort and the canal, with hot hearth ashes being dumped on the clay edge of the drop-off from this passageway or raised roadway to the head of the canal. The depression of Feature 60, and that seen in Trench 61 may well have been a depression associated with the canal, perhaps in the process of obtaining soil for building up the banks of the canal. Above the edge of the depression a heavy deposit of bricks characterized the fill.	A, B, C, D, G
61E	This provenience designation was assigned to the artifacts recovered in association with the hearth ashes thrown onto the edge of the depression of Feature 60. (See discussion in Provenience Number 61.)	B, C, G
62 *+	A backhoe cut trench on the north side of Middle Street revealing a number of features of the Revolutionary War period at the bottom of the four foot depth of the trench.	A

62E	A black humus layer containing eighteenth and early nineteenth century sherds and two pieces of grape shot. This layer was seen to overlie Features 63, 64, and 65 in the southern half of the trench. A board with two pegs in alignment with Feature 79, and with the reentered angle of the First Fort Moultrie was seen in the southern and the northern area of this trench, though this alone is of little significance since the modern curbs also have this alignment. It is thought these boards are of a nineteenth century origin.	A
63	This feature is a depression to the west of a board found in Trench 62, north of Middle Street, and was found to be only .2 feet deep. When excavated two postholes were revealed. This depression appears to be a continuation of Feature 79, and contained a pipestem and transfer printed whiteware.	A, B, D, G
64	This feature is a shallow depression .2 feet deep crossing Trench 62, to the north of Middle Street. Contained eighteenth century ceramics.	B, D, G
65	This feature was seen as an oyster shell filled ditch in the south end of Trench 62, north of Middle Street. It contained bone and eighteenth century midden material.	B, D, G
66	Backhoe trench west of Trench 62, on the north side of Middle Street, revealing the water main for the Sullivan's Island Township.	-
67	Backhoe trench cut between Trench 32 and 48 to reveal the fort moat in this area and to recover artifacts from the ditch.	A
68	The fort moat in Trench 67, between Trench 48 and 32. A heavy concentration of brick bats were noticed here, with very few whole bricks, indicating that bricks were being salvaged from structures in the area and the resulting bats thrown into the ditch. Buttons from the Royal Welsh Fusileers and the 37th and 63 Regiments of Foot were recovered from the fill in the uppermost area of this trench, a pattern seen in the other area where British buttons were found in the ditch, as though the British midden was discarded in the upper part of the ditch. One button with a "2" in relief was also found here, and is from the Second South Carolina Infantry of William Moultrie, indicating that some of the midden, at least, is from the American occupation of 1776 to 1780.	A, B, C, D, E, F, G, H, J, L

69	Backhoe trench east of Trench 62, north side of Middle Street, revealing a wood chip filled ditch (palmetto and pine), Feature 72 at the west end, and a black humus with oyster shell layer with no artifacts at the end, apparently an old marsh edge.	A, J
70*	Large backhoe hole dug at the insistence of the National Park Service representatives in an effort to find the wells for the second fort. Pumps were used to lower the water to sea level depth, but only rubble piled along the north side of the excavation was seen, in association with a series of boards and a fragment of an eleven inch shell. This was the size of the shells thrown at the fort by the iron-clad monitors during a bombardment in 1863, thus dating this level at that time period (A.E.4.0'). When the boards were removed and the depth of the hole taken to a depth of sea level, nothing was found other than some brick rubble scattered in the water-laid sand, a highly predictable result since the hole was dug inside the abatis line in the area of the Civil War moat which was said to have been filled with "quicksand" in 1860. The rubble line along the north side of the hole is seen to correlate with the 1831 breakwater, which was built using rubble from the second fort and stones piled against the toe of the third fort wall.	A, B, C, J K
71*+	This feature was a shallow ditch near the north end of trench 62, which is apparently the same architectural feature as Features 82, 86, etc., which is interpreted as a palisade ditch associated with "the camp" of 1776. This is based on the absence of any pearlware in the ditch, and on the split palisades found in Feature 86, and the darker depression seen in this Feature 71 ditch, which is interpreted as the position of the palisades, though nothing more than fragments of palmetto wood were found in this feature. The presence of palmetto wood and eighteenth century (non-pearlware) ceramics (ca. 1770's), is characteristic of all the areas of this ditch wherever it was seen. The palisade may have been a compound for livestock for Moultries's men.	A, B, C, D, G, H
72*	This feature was a wood chip filled area in the west end of Trench 69, and which is apparently a continuation of Feature 88, lying at a right angle to the ditch represented by Features 71, 82, and 86. This right angle alignment and the presence of palmetto and pine wood chips is used to tie these features together into the enclosed area interpreted as associated with "the camp" of 1776.	A, C, H

73	This feature is an area in the east end of Trench 69 with oyster shell and black humus with wood sticks, etc. appearing to be an edge of a morass or marsh. Brick fragments reveal that the area was exposed after the introduction of bricks to the area, and is thus contemporary with the early occupation of the site.	B, C, J
74*+	Backhoe dug trench on the east side of the cannon gate on the north side of Middle Street. This trench revealed the dark humus outline of a ditch (Fea. 82) at the east end, with an intrusive, artifact loaded, oyster shell midden filled ditch intruding on it at the extreme eastern end, (Fea. 75). When this was discovered the trench was expanded toward the north at the eastern end in order to follow this Feature 75 ditch. At the north end of this trench angle the water main for Sullivan's Island was seen crossing the trench. Adjacent to the intrusive ditch of Feature 75 circular oyster shell filled feature was seen, and upon excavating this feature along with the contents of the oyster shell midden filled ditch of Feature 75, it was seen to be a hewn-log type wooden barrel, apparently set into the ground as a well caseing. A dramatic absence of artifacts in the west half of Trench 74 was noticed particularly, since artifacts to the west of the fort ditch were seen in the trenches on the south side of Middle Street, and the same had been expected here, but such was not the case. In light of the interpreted position of the parapet for the first fort, the absence of midden here is apparently the result of the parapet being positioned over this area of Trench 74. (See Fea. 75 for further discussion.) An important interpretive clue for the abatis (Fea. 38) is the fact that it does not accompany the fort ditch (Fea. 75) as it appeared to do in the trenches south of Middle Street, not being seen in this trench 74. This provides a further clue to the validity of an 1860's interpretation for the abatis (Fea. 38). (See Fea. 38 for further discussion of this abatis.)	A, B, C, D, F, K
75*+	On the north side of Middle Street, in Trench 74, a ditch was seen at the extreme eastern end containing oyster shell fill exactly like that seen in the moat ditch on the south side of Middle Street in Features 56, 68, and 37. This ditch was seen to intrude on a lighter brown humus ditch (Fea. 82), and was tangent to a hewn-log barrel set into the ground apparently as a well. Both the barrel and the ditch of Feature 75 were filled with oyster shell.	A, B, C, D, E, F, G, H, J, L

	midden, and both were removed as the same feature. Many artifacts such as were seen in the ditch on the south side of Middle Street were recovered, particularly the bone button blanks found to be a characteristic attribute of the eighteenth century Revolutionary War deposit of midden in the ditch. This exact similarity of fill, plus the fact that the edge of the ditch examined revealed the same type of slope seen in the ditch to the south, resulted in this ditch being considered as the same feature as that in Feature 56, 68, and 37. The fact that this ditch clearly intrudes onto the shallower ditch containing no oyster shells (Fea. 82), places Feature 75 later in time than Feature 82.	
76	Backhoe cut trench cut north of Middle Street to the west of the hospital sidewalk, revealing a deposit of black humus and oystershells in a marsh environment.	K
77	Backhoe trench cut west of Trench 62, revealing a concrete septic tank at the south end, and some postholes at the northwest end.	-
78*	Backhoe trench north of Middle Street, and east of Trench 62, revealing a recent brick foundation at the north end, apparently the foundation for a hospital shown on a 1918 map, and to which the sidewalk extending north from Middle Street oriented. Two horizontal palmetto logs in apparent alignment with a square rubble area may represent a structure placed on the black muck or marshy ground in this area. A ditch with split palmetto logs (Fea. 82), and a board in alignment, was seen near the center of this trench. A ditch running at a right angle to this was seen to the south of Feature 82, and was designated Feature 88. This trench contained wood chips. At the south end of the trench the edge of an old marsh was seen, with muck, humus, and oyster shells.	A, J
79*+	A ditch seen in Trench 62 intruding into Feature 71, apparently dating in the early nineteenth century, judging from the presence of ceramics of that period, transfer printed ware, etc.	A, B, D
80	Backhoe trench in the dirt driveway toward the north off Middle Street, southeast of the church building. This trench revealed the outline of the ditch seen to form a square in this area north of Middle Street (Fea. 82).	A

81	Backhoe trench to the east of the church building north of Middle Street, designed to follow the ditch of Feature 82, but failing to reveal the ditch. Only a small pit with oyster shells was seen at the west end of the trench.	K
82*	This feature is a brown humus filled ditch with palmetto chips seen in Trench 74, 80, 84, 85, 62, 78, etc. No pearlware was recovered from the ditch, while white salt-glazed stoneware, creamware etc. were, indicating a date of filling of around the 1770's. The architectural alignment of the ditch with the reentered angle of the northwest bastion of the First Fort Moultrie ties these features together in orientation. However, the most important clue for dating is the fact that Feature 75, the moat ditch for the first fort, intrudes on this Feature 82 ditch, making Feature 82 earlier than Feature 75. This ditch is seen to have palmetto logs as a palisade in the Feature 86 area of the ditch, and is interpreted as being a palisade associated with "the camp" of 1776, where William Moultrie's men camped during the construction of the First Fort Moultrie. It may well have been a compound for livestock for Moultrie's men.	A, B, C, D, G
83*	This number was assigned to the base of an unglazed earthenware pot apparently in the fill of Feature 79, in an eastern extension of Trench 62.	G
84	Backhoe trench between Trenches 80 and 81, revealing the corner of Feature 82.	A
85	Backhoe trench off Trench 77 toward the north, revealing the ditch of Feature 82.	A
86*	This feature is a ditch with split palmetto palisades near the center of Trench 78, apparently the same ditch as Feature 82 and 71. A board protruded from the east profile in alignment with the split palisades. The north edge of the ditch in the trenches in this area forms a right angle with the west ditch (Fea. 82), which is intruded on by the 1776 fort moat ditch in Trench 74. This relationship places the palisades of Feature 86 earlier than the fort moat ditch. (See Provenience Numbers 71 and 82 for additional discussion.) The artifacts from areas 71 and 82 indicate a 1770's date for the ditch, supporting the intrusive archeological data. The ditch is probably related to "the camp" of 1776 known to have been north of the first fort, perhaps an enclosure for livestock.	A, B, C, D, G, H

87	This feature is a black oyster shell containing layer of humus appearing to be an old marsh, located at the south end of Trench 78.	J
88	This feature is a wood chip filled ditch (palmetto, pine) near the south end of Trench 78. It is apparently the same ditch as Feature 72 in Trench 69. Its width, however, being narrower than Trench 86-71-82, suggests that it may well be a separate ditch, with a junction with the broader ditch of Feature 86. The corner or junction area was not examined due to the possibility of endangering a standing palmetto tree at that point. The ditches aligned with the ditch in which the split palmetto logs are standing (Feature 86), are also thought to have held palmetto logs as a palisade originally, with these being pulled out as the logs were needed elsewhere, leaving the ditch with the mass of wood chips accumulated during the notching and splitting of the palmetto logs which were thrown into the ditch as fill when the logs were originally placed in the ditch. The below water level environment has preserved not only the split palisades not removed from the ditch, but the wood chips as well. The closeness of the marshy ground to the east of this area is a clear indication of the low ground conditions at the time the palisade was installed in the ditch.	A, C, J
89*+	Backhoe trench east of Fort Moultrie III, near Reference Point 3, revealing a large recent stoneware pipe (square), and a cannon ball and palmetto roots in the "E" layer below the light sand fill above.	G, J
90*+	Long Backhoe cut trench, north of the base line, east of the Third Fort Moultrie, revealing timbers from the platform of a fort (Feature 91,97), and a group of Civil War artillery shells (Feature 93). Profile data reveals the geological story of many hurricanes in this area, as well as a large thick deposit of sand from the Confederate traverse constructed in this area in the 1860's. The depth of the trench is six feet.	A, G, J, H
90E+	Black humus layer enveloping the timber of Feature 91. This layer was removed by hand after the trench had been pumped down to lower the water table. Sherds and other artifacts from this layer in association with the timber should date the period of the timber Feature 91. Twenty-one sherds of creamware and two sherds of Jackfield ware was all that could be recovered from this layer, indicating in the absence	A, B, C, D, E, G, J

of pearlware, a likely date in the 1770's for this layer, and the timber of Feature 91.

91*+	The western timber and associated ditch 2.5 feet wide with grey-brown fill in Trench 90. The timber measures 1.1' wide and .9' deep, and is solid wood with a slightly water-soaked and eroded surface, preventing a discovery of saw marks. The surface is rippled from the soft and hard grain. A notch in the timber cutting halfway into the depth, reveals an angle parallel with the reentered angle of the southern timber, Feature 97, and this parallelism and the notch are interpreted as a timber having been removed from the notch after the fort was in ruins, probably by those salvaging timbers for other construction, or possibly floated away by the hurricane of 1783. This timber parallels the timber of Feature 97 to the east a distance of 24.7 feet. The two timbers are seen as the platform timbers for the salient angle, reentered angle, and curtain wall of the northeast bastion of a fort. The timber continues toward the south a distance of 6.8 feet from the north side of the notch, where it ends with an ax cut, tapered end. This point would be inside and beneath the platform of the bastion. The ditch was seen to be at a depth of the bottom of the timber 1.9' above sea level, and to parallel it on the east side, but was not seen at all on the west side, the timber apparently being placed against the side of the ditch. From this ditch came bone fragments, 11 sherds of creamware, a wine bottle fragment, 4 sherds of Westerwald stoneware, wrought nails, wood chips of palmetto and yellow pine from ax hewing and notching of logs. Bricks also were recovered from this ditch, all whole. The absence of pearlware suggests a 1770's date for the placing of the timber in the ditch.	A, B, C, D, E, F, G, H, J
92	This feature was a dark stain appearing at first to be a ditch to the east of Feature 91, but on close examination appeared to be a rotten tree lying horizontally buried in the sand.	J
93*	Six artillery shells with pewter appearing fuzes in tact were found three feet below the surface near the eastern end of Trench 90. The conical shells appeared to be Mullane type shells, and were turned over to the Charleston Naval Weapons Station, the	E, G

	Explosive Ordnance Disposal Detachment, for disarming. The shells are now in the possession of Superintendent, William Harris, Fort Sumter National Monument, Sullivan's Island, South Carolina.	
94	Backhoe trench south of Trench 90 revealing southeast timber for the reentered angle of the First Fort Moultrie under Hypothesis A. The angle of curtain wall and reentered angle was seen at the west end of the trench.	A
95	Backhoe trench cut north of Trench 90, revealing the east timber for the salient angle platform for the First Fort Moultrie (under Hypothesis A).	A
96	Backhoe cut trench north of Trench 90 and 95, with an extension toward the north to follow the west platform timber. The east timber for the platform of the salient angle for the northeast bastion of the First Fort Moultrie (under Hypothesis A) was seen in the east end of the trench. The depth of the sand over the timbers begins to decrease toward the north to follow the west platform timber. This entire trench was cut on the property of the Sullivan's Island Township, with permission being obtained through the Chairman, Mr. C. Bryan Rowell.	A, E
97	A solid wooden beam of yellow pine parallels beam, Feature 91. This timber is located 24.7 feet east of Feature 91, and is seen in Trenches 90,94,95,96,98,102, and 103, where it ends in an eroded snag-end. The fact that an 1833 map shows a beach in the area of Trench 103, provides an excellent explanation for the timber being eroded to a snag at this point whereas it is perfectly sound elsewhere. This interpretation as to the erosion of the timber to the south of Trench 103 is supported by the fact that in Trenches 104 and 105 no sign of the timber or the humus layer associated with it could be found to a depth of sea level, two feet below the timber as seen elsewhere.	A, C, E, F, H
98	Small backhoe trench cut to follow the southern timber of the reentered angle of the northeast bastion of the First Fort Moultrie (Hypothesis A).	A

99	This backhoe cut trench was cut west of Trench 2 in order to attempt to locate the timber of Feature 97 extending in this direction. However, the timber was not seen, and instead, an abatis line was found extending down the length of the trench. This abatis has been interpreted as being of the Civil War Period, and appears to parallel the south face of the Confederate traverse of the 1860's seen on a map of 1863-64 (Corps of Engineers 1868).	-
100	Long backhoe cut trench designed to cross the western reentered angle timbers for the platform of the northeast bastion of the First Fort Moultrie (Hypothesis A). No timbers were seen but an oyster shell filled ditch aligned at the proper angle, was found (Feature 108). West of this ditch a concentration of wood chips of palmetto and pine was seen, possibly representing a wood chip floor beneath the platform. The oyster shell filled ditch may have been used as a bed for the platform timbers in this low area. The wood chips may also have been thrown into the low area of the ravine located in this area as seen on the 1794 Purcell Map.	A, C, J
101	Backhoe cut trench to attempt to follow the timber of Feature 97 toward the west, but it was not found. However, a board at a higher level was found, in the layer interpreted as the Civil War deposit. This trench is located west of Reference Point 2.	K
102	Backhoe trench cut east of Trench 101, revealing the east platform timber for the east curtain wall of the First Fort Moultrie (Hypothesis A). In the off-set western half of the trench the Civil War level board seen in Trench 101 was seen. This board is generally parallel with the yellow pine abatis found in Trench 99, and may be contemporary with it.	A, C, E
103	Backhoe cut trench revealing the eroded snag-end of Timber 97, apparently from having been exposed to the elements of beach erosion in the 1830's, as revealed by a map of that period. (See Provenience 97 for a further discussion of Provenience 103).	-
104	Backhoe trench cut to sea level depth east of Trench #2 in an effort to locate Timber #97, but only water-laid sand was found.	E, H, K
105	Backhoe trench cut south of Trench #104 in an effort to locate Timber #97, but only water-laid sand was found to sea level depth.	E, H, K

106	Backhoe trench cut on private property of Mrs. George Walker in an effort to locate Timber #97. Cut north of Trench 107.	K
107	Backhoe trench cut on Sullivan's Island property just north of Poe Avenue to locate Timber #97.	A
108	Oyster shell filled ditch in Trench 100, 1.7' wide, thought to be a possible bed for the eastern timber of the platform for the western reentered angle of the northeast bastion of the First Fort Moultrie under Hypothesis A. The alignment of this ditch produces an angle of 97° between the north curtain and reentered angle for the fort which correlates with the same angle shown on the Gray(?) Map of the first fort (Hypothesis A, Fig. 1). Wood chips seen to the west of this feature indicate the working of timbers in this area, palmetto and pine cut axes. The chips may represent a bed intentionally placed inside the area beneath the platform, or may merely be thrown into the low ravine area shown here on the 1794 Purcell Map. Only Phase 3 archeological procedures can answer detailed questions such as this through careful examination of broadly stripped areas under controlled water conditions. Such a procedure should help determine whether the timbers found in this are indeed a part of the first Fort Moultrie as suggested in Hypothesis A, or whether they can be interpreted in another manner.	A, C, H, J

APPENDIX II

EVALUATION OF ANALYSIS SITUATIONS RELATIVE TO THE ARCHEOLOGICAL DATA BANK

Any analysis of archeological materials is undertaken in relation to the provenience of the data. Analysis of data from the plowed soil zone representing perhaps hundreds of years of occupation has a different analytical weight than data from a pit representing one moment of time.

If we have an archeological site known from documents to have been occupied from 1720 to 1730, then our chronological period is established by documentation until archeology is able to confirm, deny, or elaborate on this document. When we excavate the site and find that none of the artifact classes about which we have chronological information indicate that the site was occupied at a time other than the decade indicated by the documents, then we have confirmed the historical documentation. The entire group of associated artifacts then have a feed-back value into our data bank of knowledge. Thus we use our knowledge of certain classes of artifacts, such as ceramics, pipestems, and wine bottles as a check against the known temporal period, and if this is found to agree, then we have reason to assign the same temporal bracket to the entire group of artifact classes recovered from this provenience.

The same situation prevails when we have the same documentary control data, but upon excavation we find from the artifact analysis that there is obviously an occupation at a later time than indicated by the documents. Since we have tight stratigraphic and/or feature provenience control we are able to separate an earlier component from a later component,

and we find that the earlier archeologically separated component has no class of artifacts dating later than our documented period of occupation. We then have reason to relate this group of archeologically associated artifact classes to our documented time bracket. The other, later artifact classes are then assigned a later chronological position both by virtue of their higher stratigraphic or provenience separation and by what knowledge we have in our data bank regarding the temporal position of these artifacts.

If, however, our excavation reveals a mixed deposit with no significant separation of materials by provenience, and artifacts are present from a period later than the documented time period, then we are forced by the archeological data to deal, in our analysis, with the entire temporal range represented by the artifact classes.

This basic conceptual premise can be illustrated in a "Data Flow Diagram for Evaluation of Analysis Situations Relative to the Data Bank of Archeological Knowledge" (See Figure). The short time span represented by data from a narrow documented occupation period and/or a tightly provenienced archeological data results in a flow of associated data as a contextual unit toward the data bank of archeological knowledge. This data bank can be seen as a piggy bank into which information coins are placed, such as: 1) the chronological association of artifact classes as a time capsule, 2) the associative-functional, artifact-feature relationships, 3) the spatial associations, 4) meaningfully provenienced horizontal and stratigraphic data in association with site features, architecture, etc., 5) historical documentation, and 6) the associated data reflecting cultural patterning and process as a contextual unit. Such analysis situations produce more data than required from the data

bank, and therefore have Primary Research Priority.

When the analysis unit represents a long occupation period and/or no provenience control, the result is that there is a data flow of information coins from the data bank toward the archeological components being analyzed. Since there is a long occupation period involved and no provenience control, virtually all information such as function, comparative data, chronology, spatial relationships, associations, documentation, typology and cultural patterning and process must come from our data bank of knowledge toward the analysis and interpretation of the analysis unit. Because of this requirement for more data than it produces for the data bank, this analysis situation has a Secondary Research Priority.

There is one situation where two occupations can be suggested for an analysis situation representing a long time period, and this is when the sequence of artifact types is broken by the absence of a type or types that should be present if the occupation had been a continuous one. Such a situation still requires more data than it produces for the data bank, and is still a secondary research priority situation, but it does have a limited feed-back value into the data bank somewhat higher than when negative data are not present.

An example of the time when we can validly split a long time span ceramic collection is seen where white salt-glazed stoneware and other mid-eighteenth century ceramic types are present, as well as pearlware of the 1780's and 1790's, but creamware characteristic of the 1770's is virtually absent. In the face of such negative data, and in the absence of other data to the contrary, we might validly suggest two occupation periods represented by the ceramic collection, separated by

a period of non-occupation in the 1770's. This does not allow us, however, to suggest that the bone or any other classes of artifacts can be similarly divided into groups reflecting two occupation periods.

From this evaluation of analysis situations it can be seen as axiomatic that the value of an archeological analysis unit is in direct proportion to the degree to which there is a data flow from the analysis unit to the data bank for use in interpreting the archeological record. A corollary to this is that in a primary or a secondary research situation the value of the data to future research is in direct relation to the competence of the archeologist in obtaining significant provenience, analysis, interpretation, and explanation of the data in relation to the hypotheses being examined in the research design.

In view of the above it becomes apparent for the purpose of defining the occupation period represented by the artifact classes in an analysis unit, we cannot validly select the artifact types belonging to the documented time period as indicated by the records, and ignore or separate those that date later. In such an instance, the archeological record has demonstrated the incompleteness of the written record, and we should then deal with that occupation record. If we concern ourselves with listing artifacts used at particular time periods, and divide our collection on this basis, we need not have done archeology to carry out what is primarily an exercise in the temporal arrangement of artifact types!

The archeologist faced with the analysis of a poorly provenienced and/or long-time-span group of artifact classes is sometimes seen to resort to what he may term "functional analysis" to avoid the mere exercise of temporal arrangement of artifact types. Limited information can be extracted from such analysis, such as the conclusion that plates

were used to eat from, mugs to drink from, jars to store liquids, nails to hold wooden members together, shovels to dig with, lamps to provide light, drawer-pulls to open drawers in furniture, and other equally interesting conclusions. There is certainly nothing wrong with functional analysis, but again it is evident that the most data will emerge from our analysis situations when there is a narrow documented occupation period and/or tightly provenienced archeological data. In such primary research priority analysis situations there is more data flow toward the data bank than from it, for functional or other analysis.

If the archeologist finds himself involved with a secondary priority analysis situation where his level of operation is on that of the collector of relics or an antique dealer, then he may well ask whether his time might not be better spent in other pursuits. If in arriving at functional, socio-economic, status, and other cultural interpretations from archeological data the archeologist finds himself leaning on the documents as a crutch, and using archeological data primarily as padding to the historical record, then he is bastardizing the archeological profession. He should use documentary data, but the foundation of his interpretation should be archeological when his historical-temporal, historical-social, historical-status, historical-function explications emerge from the archeological process. There should be a direct and positive nexus between the archeology and the documents in interpreting the cultural process represented by the patterning seen in the archeological record. If there is not this connection, then we are frosting history or writing fiction as a veneer over the data with which we began.

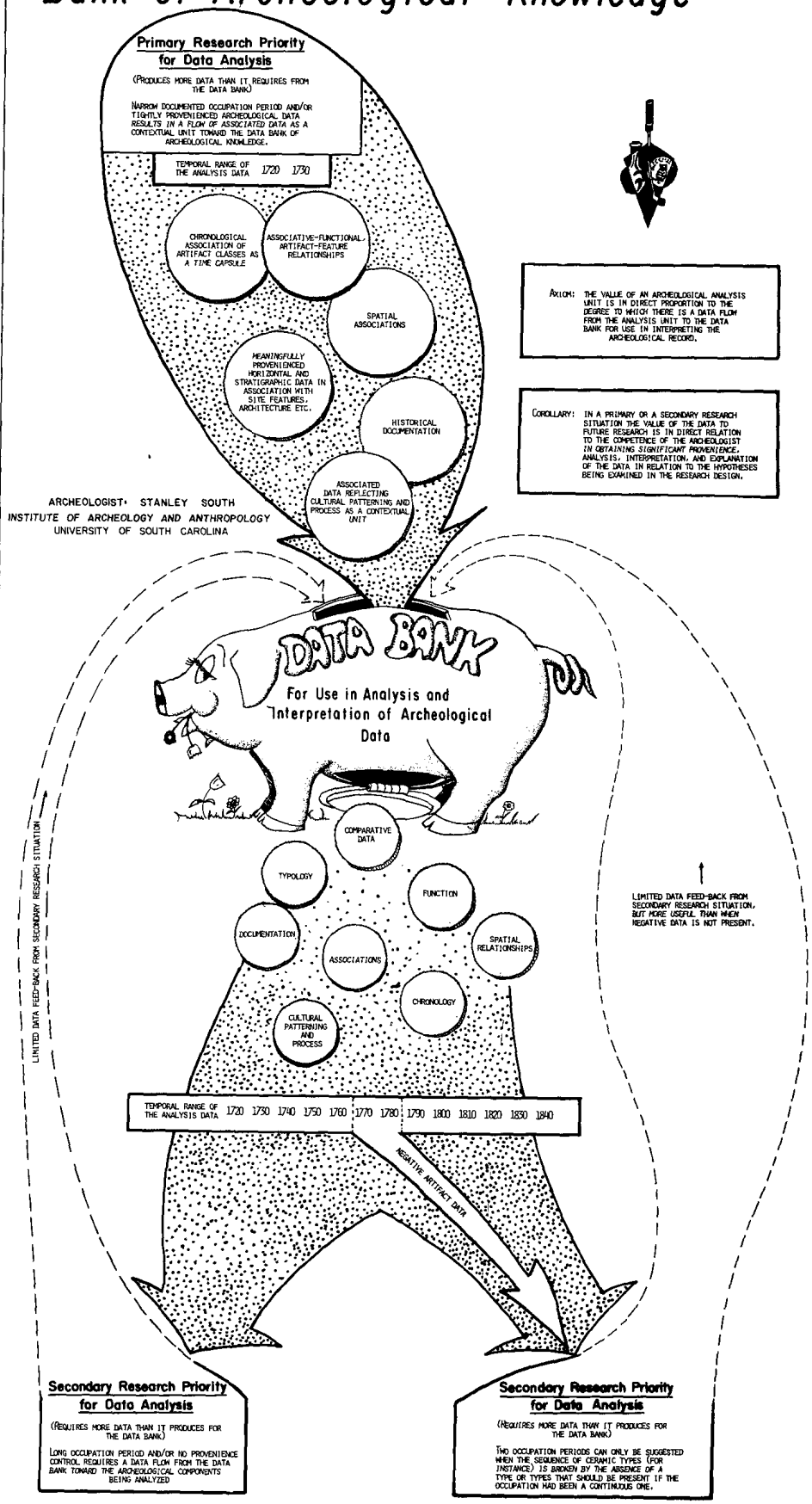
The archeological process requires a systematic, scientific, carefully

cited presentation where any conclusion follows from documented, demonstarated patterning of data. An alternative approach is characterized by terms such as "we might expect," or "it can be assumed," or "it stands to reason" that many wine bottles equal a tavern; porcelain equals a rich man; coarse earthenware equals a poor man; and from such "data" we leap to describing the life style of the colonial period in our "cultural explanation." Such an approach does not produce coins of information to deposit in our data bank of knowledge for use in the analysis and interpretation of archeological data.

Our comments here have been designed to emphasize the importance of data flow from archeological sites to the data bank of our knowledge. If our research designs are such that the questions we are asking of our sites can be answered primarily through a data flow from our existing knowledge to the sites we are excavating, then perhaps we should re-examine our questions and our research designs. If we find that we are excavating site, after site, after site with our reports reflecting merely a descriptive statement of the architecture, the profiles, the features, and the artifacts as interpreted through existing data bank knowledge, then perhaps we should begin to turn out attention to those research situations having primary research priority. Kiln sites, stratified sites, short time span sites, specialized use sites, such as those used by silversmiths, blacksmiths, goldsmiths, and other craftsmen as well as sites representing of those areas where architectural or artifact chronology data are lacking are primary research priority sites. This is a direction easier pointed out than carried out since our archeological financing is

most often not based on these research considerations. However, by constructing our research designs and our methods around an emphasis on data flow from research situations to data bank, we hopefully can increase the amount of usable archeological data emerging from our excavations.

Data Flow Diagram For Evaluation of Analysis Situations Relative to the Data Bank of Archeological Knowledge



APPENDIX III

TOBACCO PIPE MARKS FROM THE AMERICAN AND BRITISH MIDDENS

American Midden

Provenience	Mark	Comments & Date	Reference
38[illegible]50-17E-56&57	A raised numeral "10" surrounded by a heart motif appearing on left side of bowl with pipe in smoking position. There is a spur on the more complete bowl and a raised medalion of faint character on the right side-5/64	Not identified beyond being in the English style	
17[illegible]58	Part of a "T" and a whole "D" in a circle with a foliate design in the circle above and below the letters	TD pipes are noted as being found from Revolutionary sites to the present. This piece is fragmentary and the shape of the bowl cannot be seen	C&B 1948: 281-282
17F-58	Raised "T" on bowl facing the smoker	See above comment	
17F-57	Horizontal "W" on left side of heel with top of letter away from smoker. Horizontal "M" on right side with top away from smoker-5/64		
52[illegible]53	A crowned 16 on the base (fragment)	Crowned numeral marks are a Dutch characteristic and a gloss on the bowl also supports the suggestion that this fragment is Dutch	Walker 1971: 71&90
52F-69	A fragment of the English Royal Coat of Arms on bowl facing smoker. Figure of a unicorn standing on unreadable motto, supporting a coat of arms with further inscription on its border. Unclear cast	Armorial pipes of this sort originated in London after 1730	Oswald 1970: 136

British Midden

27[illegible]	Arms of city of Gouda with "S" above one coat of arms on either side of heel. Crowned "82"	The double arms and the letter "S" (for "slegte" or "ordinary") are a post-1740 indicator. The use of numbers was a characteristic of the Dutch as well as the smooth glossy surface and milling of the bowl mouth-5/64	Walker 1971: 63,64,71&90

APPENDIX IV

A NOTE ON THE BONE REFUSE FROM THE BRITISH AND AMERICAN MIDDENS AT FORT MOULTRIE

Robert L. Stephenson

Introduction

The excavations at Fort Moultrie have yielded a modest quantity of bone refuse. Nearly all of this refuse was recovered from the excavated portions of two extensive middens in the ditches along the north curtain wall and at the junction of the north curtain wall and the northwest bastion. These two middens are referred to elsewhere in this report as the British midden and the American midden.

The bone refuse in the British midden was separated into five proveniences and that in the American midden into ten proveniences. These proveniences simply indicate the places within the ditches from which the material was recovered. The British midden yielded 95 pounds of bone ranging from 8 pounds to 25 pounds per provenience. The American midden yielded 225 pounds of bone ranging from 11 pounds to 48 pounds per provenience.

Identification

Detailed identification and analysis of this quantity of bone would be a lengthy process and would not be of sufficient value to justify the time spent. Some identification, though, is needed in order to make at least some statements about the kinds of animals present and the possible uses to which they were put. With this purpose in mind, the bones of each provenience were rapidly and, I must say, grossly sorted and identified. During the sorting and identification process several observations were made.

The identification procedure used was to sort the bones at, generally, the level of the genus or species by a combination of size, massiveness, and use of some of the quickly discernible landmarks of the several species or genera. Nearly all of the bone was broken. Only a rare bone was found that was whole and perhaps as much as 80% or more were extremely fragmented, especially in the material from the American midden. This made precise identification difficult. For example a mid-section of a very large, robust femur could be cow (Bos) or horse (Equus). Since obvious cow bones were the most numerous bones present, these were listed as cow and I believe all or nearly all of them are cow. However, a few horse bones were clearly identifiable so a few could well be horse. The same criteria applied to animals like deer, sheep, and goat. All three were certainly present and the vast majority of the bones of the two are clearly deer so "uncertains" were listed as deer. Thus there may be more horse, sheep and goat than show up in the listing and fewer cow and deer but I doubt if the descrepancy would amount to more than 10% or 15% in either instance.

Cow, deer, and pig are the dominant animals but a few other, smaller animals are present. Goat, sheep and horse have been mentioned above. There are also rabbit, bird, fish, turtle, dog, rat, and a small animal the size of a raccoon that is listed as raccoon. The bird bones are predominantly of large water birds of the size of duck, goose, swan, and heron, but a few are bones of birds the size of a robin. The fish bones are predominantly vertebrae of moderately large fish that would be in the size range of 10-15 pounds, but some are smaller fish. A few fish are represented by gill plates and skull parts. The turtle

fragments are rare and all are bits of carapace of one of the common land turtles. A few dog bones are clearly present represented by sections of long bone and a couple of teeth. Most appear to be adult and of the size of a collie or slightly smaller. At least one is an immature animal. The rare bones listed as rat are of a large rodent but smaller than a rabbit. The details of the bone counts by provenience are indicated in Figure 59.

These are, indeed, gross identifications but are sufficient to provide data on which some general observations can be made as to the nature and use of the animals represented. No attempt was made to list the specific skeletal elements nor to list age, sex, or rights and lefts or some of the other details that would constitute a detailed analysis of the faunal assemblage. Such efforts would not be a profitable use of time. They would net very little additional information because of the extensively fragmented condition of the total assemblage. Such details as are mentioned above could only be determined in perhaps 25% or so of the material and the rest would be in the "indeterminate" category.

In the sorting and identification process used, each provenience group of bones had a residue of unidentifiable scraps that defied any identification beyond "mammal". This residue was discarded.

Observations

1. Three animals (cow, deer, and pig) dominated the inventory of bone refuse in about the same percentage in both the British and American middens. Secondary animals are goat, or sheep, rabbit, bird, and fish, and these too are in about the same proportions in the British and American middens. Turtle, horse, dog, rat, and raccoon are proportionately about half as abundant in the American midden as in the British.

These, however, are so rare as to suggest that they might be fortuitous inclusions in both middens. It may be suggested that the turtle, dog, rat, and raccoon remains might be of animals that died in the midden ditch or had died elsewhere and been discarded as trash into the midden, unassociated with the deposition of the other bones in the deposit. In short the *food* bone in the British trash pile consisted of the same animals in about the same proportions suggesting similar foods in use by both British and American occupants of Fort Moultrie.

2. The condition of the bone in the two middens is quite different. The bones in the British midden are crushed and broken and there are few whole bones. The bones in the American midden are several times as badly crushed and broken as are those in the British midden. An occasional whole bone was found but in general the fragmentation was much, much greater in the American midden than in the British.

3. The extreme fragmentation of the bone in the American midden may be accounted for, in part, by usage. Nearly all of the bones here that contained any appreciable amount of cancellous tissue had had the outer "peeling" of the bone removed and the cancellous tissue exposed. Even vertebrae had been split to expose the cancellous tissue. Femur and other long bone heads, scapula heads, etc. had all been treated in this way. Furthermore it was purposeful and patterned. The cancellous surfaces had been used as some sort of abrading tool. Most were worn down in various forms of concavity, convexity, or irregularity. Many were even faceted with two or more sides exhibiting usage. It may be suggested that these cancellous surfaces were used as hide grainers in preparing leather, as Indians often used them. Perhaps they served

as sandpaper for smoothing wood or other surfaces. Or perhaps there was some other use for them. At any rate they were used and used extensively.

In the British midden a few such bones had been used as abraders in this way but they were the exception rather than the rule.

4. Many of the ribs, especially the large cow ribs, had been split longitudinally and the cancellous structure smoothed over. This leaves a large, thin, flat bone from which buttons or discs could be cut. Indeed, many such ribs were found in these middens with discs removed from them presumably for the manufacture of buttons. Of course other potential uses for these prepared, thin, flat bones could be suggested, e.g. gaming pieces, ceramics tools, etc. Those with the disc cuts on them are the only ones, though, that provide any concrete evidence of the specific use. These are considered elsewhere in this report.

5. Some absences are notable. In both middens there were almost no hoof bones or skull fragments. Several pig mandibles and a dozen or so pig teeth were present but no crania. Only two deer mandibles and again no crania were seen. Two or three calf's hooves, 2 or 3 calf horn cores and one deer or goat hoof were all of these bones that were found. Several cow teeth but no mandibles or crania were present. Tail vertebrae were also remarkably few.

This clearly suggests that when these animals were butchered, the head, hoofs and tail went with the hide and were disposed of somewhere else other than in these ditches. Only the main edible parts are represented here. Probably the head, hoofs, tail, and hide went to wherever leather tanning was done. The head would provide tanning material and the hoofs may have been used to make glue.

6. These observations suggest that the two middens represent kitchen garbage,with butchering scraps disposed of elsewhere. Food bones are predominant. Bones are extensively broken (predominantly in the American midden). The appearance of this as kitchen garbage suggests another use of the cancellous tissue abraders. They may have been cooking utensil scouring pads.

7. Only three bones had been sawed. All the rest had been broken, hacked or cut. The rare sawed bones were pig femur fragments. They had been sawed vertically across the body of the bone. Cut marks were not abundant on the bone surfaces but occurred on some ribs and long bones from the American midden, though many bones appeared to have been cut across the ends. Most, however, appeared to have been hacked as if by a cleaver. The sawed bones were from the American midden.*

8. In both middens adult and immature animals seem to be represented in a ratio of about 25% immature to 75% adult. This applies especially to pig bones but generally to all of the major animals (cow, deer, pig). There was a larger percentage of immature bone in the British than in the American midden.

9. Ulnas were noticeably few. This might suggest that these bones were removed and used as tools such as awls or punches.

10. A very few bones, mostly of small animals, had been very intensively burned. None of the bones were scorched but the few that were burned had been exposed to extreme heat. The scarcity of burned bone might suggest boiling or stewing of meat rather than open fire roasting.

Summary

This bone refuse has provided some generalized suggestions as to what the people were eating and how the bones were used. These are food

*These are considered to post-date the Revolution, ca. 1790's (South).

refuse dumps and some differences can be noted between the American and British bone usage. They were eating the same kinds of animals but were using the bones differently after they had eaten the meat. Hopefully this sort of brief analysis will be of some help in understanding the way of life of the occupants of Fort Moultrie during the American Revolution.

APPENDIX V

APPLICATION OF THE MEAN CERAMIC DATE FORMULA TO CERAMICS FROM FORT MOULTRIE

CERAMIC ANALYSIS TOOLS

FOR THE INTERPRETATION

of Eighteenth Century British American Sites

To Accompany a Paper on "Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology"

Stanley South, Archeologist

Institute of Archeology and Anthropology

University of South Carolina

(A) The Ceramic Types Used to Construct the Analysis Tools

from

A Guide to Artifacts of Colonial America (1970)*

by

Ivor Noël Hume

(Updated in a Conference with Noël Hume, October 1971)

TYPE NUMBER	DATE RANGE	MEDIAN DATE	CERAMIC TYPE NAME AND PAGE REFERENCE
			Porcelain
5.	c.1800-1830	1815	CANTON PORCELAIN (262).
7.	c.1790-1825	1808	OVERGLAZE ENAMELLED CHINA TRADE PORCELAIN (258 and 261).
26.	c.1660-1800	1730	OVERGLAZE ENAMELLED CHINESE EXPORT PORCELAIN (261).
31.	c.1745-1795	1770	ENGLISH PORCELAIN (137).
39.	c.1660-1800	1730	UNDERGLAZE BLUE CHINESE PORCELAIN (257).
41.	c.1750-1765	1758	"LITTLER'S BLUE" (119-23) (ON WHITE SALT-GLAZED STONEWARE, PORCELAIN, AND CREAMWARE).
69.	c.1574-1644	1609	CHINESE PORCELAIN, UNDERGLAZE BLUE, LATE MING (257 and 264).
			Stoneware
BROWN			
1.	c.1820-1900+	1860	BROWN STONEWARE BOTTLES FOR INK, BEER, ETC. (78-79).
46.	c.1700-1810	1755	NOTTINGHAM STONEWARE (LUSTERED) (114).
52.	c.1700-1775	1738	BURSLEM "CROUCH" PALE BROWN STONEWARE MUGS.
53.	c.1690-1775	1733	BROWN SALT-GLAZED MUGS (FULHAM) (111-13).
54.	c.1690-1775	1733	BRITISH BROWN STONEWARE (EXCLUDING 1, 52, 53) (112-14).
66.	c.1620-1700	1660	DETERIORATED BELLARMINE FACE BOTTLES (ONE DATED EXAMPLE TO THE 1760's) (56-57).
74.	c.1550-1625	1588	BELLARMINE, BROWN SALT-GLAZED STONEWARE, WELL MOLDED HUMAN FACE (55-57).
75.	c.1540-1600	1570	RHENISH BROWN-GLAZED SPRIGGED, MOULD-DECORATED, COLOGNE TYPE STONEWARE (277-79).
BLUE, GRAY			
44.	c.1700-1775	1738	WESTERWALD, STAMPED BLUE FLORAL DEVICES, GEOMETRIC DESIGNS (284-85).
58.	c.1650-1725	1668	SPRIG MOLDING, COMBED LINES, BLUE AND MANGANESE DECORATED RHENISH STONEWARE (280-81).
59.	c.1690-1710	1700	EMBELLISHED HOHR GRAY RHENISH STONEWARE (284).
77.	c.1700-1775	1738	WESTERWALD CHAMBER POTS (148,281).
WHITE			
16.	c.1740-1765	1753	MOULDED WHITE SALT-GLAZED STONEWARE (115).
24.	c.1765-1795	1780	DEBASED "SCRATCH BLUE" WHITE SALT-GLAZED STONEWARE (118).
30.	c.1755-1765	1760	TRANSFER PRINTED WHITE-SALTGLAZED STONEWARE (128).
34.	c.1744-1775	1760	"SCRATCH BLUE" WHITE SALT-GLAZED STONEWARE (117).
40.	c.1720-1805	1763	WHITE SALT-GLAZED STONEWARE (EXCLUDING PLATES AND MOULDED) (115-17).
41.	c.1750-1765	1758	"LITTLER'S BLUE" (119-23) (ON WHITE SALT-GLAZED STONEWARE, PORCELAIN, AND CREAMWARE).
43.	c.1740-1775	1758	WHITE SALT-GLAZED STONEWARE PLATES (115-17).
48.	c.1715-1775	1745	SLIP-DIPPED WHITE SALT-GLAZED STONEWARE (114-15).
55.	c.1720-1730	1725	"SCRATCH BROWN OR TRAILED" WHITE SALT-GLAZED STONEWARE (117).
OTHER			
3.	c.1813-1900	1857	IRONSTONE AND GRANITE CHINA (131).
27.	c.1750-1820	1785	"BLACK BASALTES" STONEWARE (121-22).
28.	c.1763-1775	1769	ENGINE-TURNED UNGLAZED RED STONEWARE (121).
37.	c.1690-1775	1733	REFINED RED STONEWARE, UNGLAZED, SPRIGGED (120-21).
50.	c.1732-1750	1741	RALPH SHAW, BROWN, SLIPPED STONEWARE (118-19).
			Earthenware
SLIPWARE			
56.	c.1670-1795	1733	LEAD GLAZED SLIPWARE (COMBED YELLOW) (107,134-36).
63.	c.1650-1710	1680	NORTH DEVON SGRAFFITO SLIPWARE (104-05).
67.	c.1612-1700	1656	WROTHAM SLIPWARE (103-04).
68.	c.1630-1660	1645	"METROPOLITAN" SLIPWARE (103).
70.	c.1610-1660	1635	RED MARBELIZED SLIPWARE (NORTH ITALIAN) (77).
73.	c.1580-1625	1603	WANFRIED SLIPWARE (139).

Earthenware (Continued)

REFINED			
2.	c.1820-1900+	1860	WHITEWARE (130-31).
6.	c.1795-1890	1843	MOCHA (131).
29.	c.1740-1780	1760	"JACKFIELD" WARE (123).
33.	c.1759-1775	1767	GREEN GLAZED CREAM-BODIED WARE (124-25).
36.	c.1740-1770	1755	"CLOUDED" WARES, TORTOISESHELL, MOTTLED GLAZED CREAM-COLORED WARE (123).
42.	c.1740-1775	1758	REFINED AGATE WARE (132).
51.	c.1725-1750	1738	"ASTBURY" WARE, WHITE SPRIGGED AND TRAILED (123).
78.	c.1790-1840	1815	LUSTER DECORATED WARES.
COARSE			
35.	c.1750-1810	1780	COARSE AGATE WARE (EXCLUDING DOORKNOBS) (132).
38.	c.1745-1780	1763	IBERIAN STORAGE JARS (143).
47.	c.1720-1775	1748	BUCKLEY WARE (132-33, 135).
61.	c.1650-1775	1713	NORTH DEVON GRAVEL TEMPERED WARE (133).
TIN-ENAMELLED			
21.	c.1775-1800	1788	DEBASED ROUEN FAIENCE (141-42) (c.1755 ON FRENCH SITES).
32.	c.1730-1830	1780	PEDESTAL-FOOTED TYPE DELFT OINTMENT POT (204-05).
45.	c.1700-1800	1750	EVERTED RIM, PLAIN DELFT OINTMENT POT (204-05).
49.	c.1600-1802	(1650) (1750)	(17TH CENT.) (18TH CENT.) DECORATED DELFTWARE (105-11).
57.	c.1750-1800	1775	PLAIN DELFT WASH BASINS.
60.	c.1710-1740	1725	MIMOSA PATTERN DELFT (108-11).
62.	c.1620-1720	1670	ENGLISH DELFTWARE (BLUE DASH CHARGERS) (108-09).
64.	c.1630-1700	1665	CYLINDRICAL DELFT OINTMENT POTS (109, 203-10).
65.	c.1640-1800	1720	PLAIN WHITE DELFTWARE (109).
71.	c.1620-1775	1698	DELFT APOTHECARY JARS (MONOCHROME).
72.	c.1580-1640	1610	DELFT APOTHECARY JARS AND POTS (POLYCHROME) (203).
76.	c.1660-1800	1730	DELFT CHAMBER POTS (146-47).
CREAMWARE			
8.	c.1790-1820	1805	"FINGER-PAINTED" WARES (POLYCHROME SLIP ON CREAMWARE OR PEARLWARE (132).
14.	c.1780-1815	1798	"ANNULAR WARES" CREAMWARE (131).
15.	c.1775-1820	1798	LIGHTER YELLOW CREAMWARE (126-28).
18.	c.1765-1810	1788	OVERGLAZE ENAMELLED HAND PAINTED CREAMWARE.
22.	c.1762-1820	1791	CREAMWARE (125-26).
23.	c.1765-1815	1790	TRANSFER PRINTED CREAMWARE (126-28).
25.	c.1762-1780	1771	DEEPER YELLOW CREAMWARE (126-28).
41.	c.1750-1765	1758	"LITTLER'S BLUE" (119-23) (ON WHITE SALT-GLAZED STONEWARE, PORCELAIN, AND CREAMWARE).

Earthenware (Continued)

PEARLWARE			
4.	c.1820-1840	1830	UNDERGLAZE POLYCHROME PEARLWARE, DIRECTLY STENCILED FLORAL PATTERNS, BRIGHT BLUE, ORANGE, GREEN, PINKISH RED (129).
6.	c.1795-1890	1843	MOCHA (131).
8.	c.1790-1820	1805	"FINGER-PAINTED" WARES (POLYCHROME SLIP ON CREAMWARE OR PEARLWARE) (132).
9.	c.1800-1820	1810	EMBOSSED FEATHERS, FISH SCALES, ETC. ON PEARLWARE (131).
10.	c.1795-1840	1818	"WILLOW" TRANSFER-PATTERN ON PEARLWARE (130).
11.	c.1795-1840	1818	TRANSFER-PRINTED PEARLWARE (128-130).
12.	c.1795-1815	1805	UNDERGLAZE POLYCHROME PEARLWARE (129).
13.	c.1790-1820	1805	"ANNULAR WARES" PEARLWARE (131).
17.	c.1780-1820	1800	UNDERGLAZE BLUE HAND PAINTED PEARLWARE (128-29).
19.	c.1780-1830	1805	BLUE AND GREEN EDGED PEARLWARE (131).
20.	c.1780-1830	1805	UNDECORATED PEARLWARE.

* Published By Alfred A. Knopf, Inc.

(B) An Application of the Mean Ceramic Date Formula

THE MEAN CERAMIC DATE FORMULA USING PRESENCE-ABSENCE AND FREQUENCY

THE MEAN MANUFACTURE DATE FOR THE GROUP OF COLONIAL ENGLISH CERAMIC TYPES FROM AN HISTORIC SITE TAKING INTO CONSIDERATION THE FREQUENCY OF OCCURRENCE OF FRAGMENTS OF THE TYPES, CAN BE DETERMINED BY A MEAN CERAMIC DATE-FREQUENCY FORMULA AS FOLLOWS:

WHERE THE MEAN CERAMIC DATE, Y, IS EXPRESSED:

$$Y = \frac{\sum_{i=1}^{n} X_i \cdot f_i}{\sum_{i=1}^{n} f_i}$$

WHERE X_i = THE MEDIAN DATE FOR THE MANUFACTURE OF EACH CERAMIC TYPE

f_i = THE FREQUENCY OF EACH CERAMIC TYPE

n = THE NUMBER OF CERAMIC TYPES IN THE SAMPLE

BRUNSWICK TOWN, NORTH CAROLINA RUIN 57

CERAMIC TYPE	TYPE MEDIAN (X_i)	SHERD COUNT (f_i)	PRODUCT ($X_i \cdot f_i$)
22	1791	483	43953
33	1767	25	1675
26	1730	62	1860
34	1760	32	1920
36	1755	55	3025
37	1733	40	1320
43	1758	327	18966
49	(1750)	583	29150
44	1738	40	1520
47	1748	28	1344
39	1730	241	7230
53,54	1733	52	1716
56	1733	286	9438
29	1760	9	540
		2263	123657 ÷ 2263 (+ 1700) = 1754.6

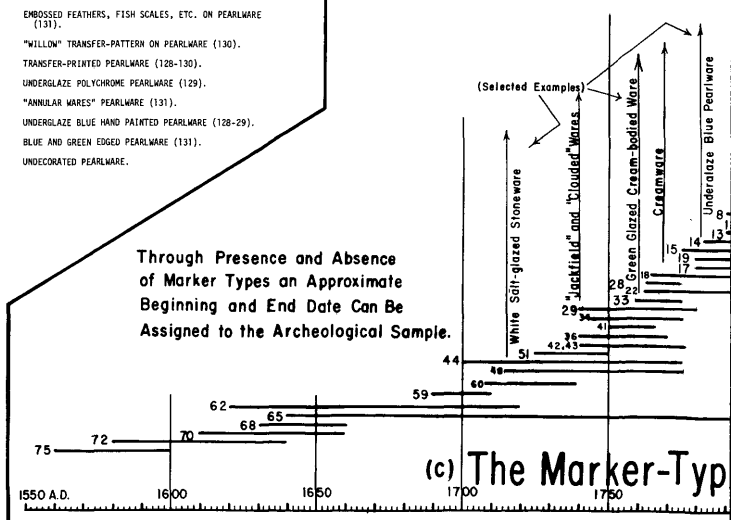
HISTORIC DATES 1734-1776

HISTORIC MEDIAN DATE 1755

MEAN CERAMIC DATE 1754.6

PIPESTEM DATE 1756

(D) A

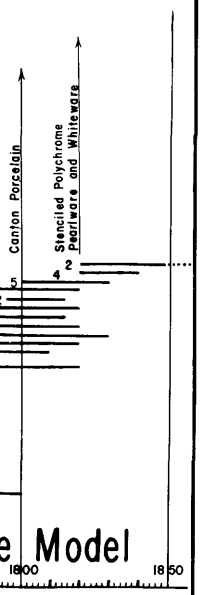


Through Presence and Absence of Marker Types an Approximate Beginning and End Date Can Be Assigned to the Archeological Sample.

(C) The Marker-Typ

pplication of the Analysis Tools

The Ceramic Analysis Data from Eleven Sites Using Interpretive Occupation Brackets, Presence and Absence, and the Mean Ceramic Date Formula Compared to the Documented Site Occupation Period.



Legend

- 9 — Ceramic Type 9 Manufacture Period
- Visually Interpreted Occupation Period Brackets
- Mean Ceramic Formula Date
- Pipestem Date
- Area of Absent Types for Interpreting an Occupation End Date
- Documented Occupation Period for the Site

TALLASSEE, Tennessee
A Cherokee House Site

NIPPER CREEK, S. C.
(38RDI8) Pit Contents

BRUNSWICK, N.C., RUIN S10
A Midden Deposit

PACA HOUSE, Maryland
An Annapolis Mansion (19J, 27B)
Midden Deposit

FORT PRINCE GEORGE, S.C.
A British Frontier Fort (38PNI)
Entire Collection

GOUDY'S POST, S. C.
Trading Post Plowed Zone (38GNI-3)

GOUDY'S POST, S. C.
Trading Post Cellar (38GNI-5)

BRUNSWICK, N.C. RUIN S7
A Port Town Ruin
Entire Collection

FORT MOORE, S.C.
A British Fort and Trading Post
Cellar (38AK5-A)

FIRST FORT MOORE ?, S. C.
A British Fort and Trading Post
Cellar (38AK4-15)

CHARLES TOWNE, S.C.
The First British Fort in S.C.
Fort Ditch (38CHI)

Absent 2
Absent 2-4, 9
Absent 27, 33, 35-36, 41, 42
Absent 22, 28, 33, 35, 36
Absent 17

1550 A.D. 1600 1650 1700 1750 1800 1850

South 10-14-1971

CERAMIC ANALYSIS TOOLS

FOR THE INTERPRETATION

# of Eighteenth Century British American Sites

To Accompany a Paper on "Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology"

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from

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Ivor Noël Hume

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7.	c.1790-1825	1808	OVERGLAZE ENAMELLED CHINA TRADE PORCELAIN (258 and 261).
26.	c.1660-1800	1730	OVERGLAZE ENAMELLED CHINESE EXPORT PORCELAIN (261).
31.	c.1745-1795	1770	ENGLISH PORCELAIN (137).
39.	c.1660-1800	1730	UNDERGLAZE BLUE CHINESE PORCELAIN (257).
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69.	c.1574-1644	1609	CHINESE PORCELAIN, UNDERGLAZE BLUE, LATE MING (257 and 264).
			Stoneware
BROWN			
1.	c.1820-1900+	1860	BROWN STONEWARE BOTTLES FOR INK, BEER, ETC. (78-79).
46.	c.1700-1810	1755	NOTTINGHAM STONEWARE (LUSTERED) (114).
52.	c.1700-1775	1738	BURSLEM "CROUCH" PALE BROWN STONEWARE MUGS.
53.	c.1690-1775	1733	BROWN SALT-GLAZED MUGS (FULHAM) (111-13).
54.	c.1690-1775	1733	BRITISH BROWN STONEWARE (EXCLUDING 1, 52, 53) (112-14).
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74.	c.1550-1625	1588	BELLARMINE, BROWN SALT-GLAZED STONEWARE, WELL MOLDED HUMAN FACE (55-57).
75.	c.1540-1600	1570	RHENISH BROWN-GLAZED SPRIGGED, MOULD-DECORATED, COLOGNE TYPE STONEWARE (277-79).
BLUE, GRAY			
44.	c.1700-1775	1738	WESTERWALD, STAMPED BLUE FLORAL DEVICES, GEOMETRIC DESIGNS (284-85).
58.	c.1650-1725	1668	SPRIG MOLDING, COMBED LINES, BLUE AND MANGANESE DECORATED RHENISH STONEWARE (280-81).
59.	c.1690-1710	1700	EMBELLISHED HOHR GRAY RHENISH STONEWARE (284).
77.	c.1700-1775	1738	WESTERWALD CHAMBER POTS (148,281).
WHITE			
16.	c.1740-1765	1753	MOULDED WHITE SALT-GLAZED STONEWARE (115).
24.	c.1765-1795	1780	DEBASED "SCRATCH BLUE" WHITE SALT-GLAZED STONEWARE (118).
30.	c.1755-1765	1760	TRANSFER PRINTED WHITE-SALTGLAZED STONEWARE (128).
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			Earthenware
SLIPWARE			
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Earthenware (Continued)

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29.	c.1740-1780	1760	"JACKFIELD" WARE (123).
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COARSE			
35.	c.1750-1810	1780	COARSE AGATE WARE (EXCLUDING DOORKNOBS) (132).
38.	c.1745-1780	1763	IBERIAN STORAGE JARS (143).
47.	c.1720-1775	1748	BUCKLEY WARE (132-33, 135).
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TIN-ENAMELLED			
21.	c.1775-1800	1788	DEBASED ROUEN FAIENCE (141-42) (c.1755 ON FRENCH SITES).
32.	c.1730-1830	1780	PEDESTAL-FOOTED TYPE DELFT OINTMENT POT (204-05).
45.	c.1700-1800	1750	EVERTED RIM, PLAIN DELFT OINTMENT POT (204-05).
49.	c.1600-1802	(1650) (1750)	(17TH CENT.) (18TH CENT.) DECORATED DELFTWARE (105-11).
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64.	c.1630-1700	1665	CYLINDRICAL DELFT OINTMENT POTS (109, 203-10).
65.	c.1640-1800	1720	PLAIN WHITE DELFTWARE (109).
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CREAMWARE			
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22.	c.1762-1820	1791	CREAMWARE (125-26).
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Earthenware (Continued)

PEARLWARE			
4.	c.1820-1840	1830	UNDERGLAZE POLYCHROME PEARLWARE, DIRECTLY STENCILED FLORAL PATTERNS, BRIGHT BLUE, ORANGE, GREEN, PINKISH RED (129).
6.	c.1795-1890	1843	MOCHA (131).
8.	c.1790-1820	1805	"FINGER-PAINTED" WARES (POLYCHROME SLIP ON CREAMWARE OR PEARLWARE) (132).
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(B) An Application of the Mean Ceramic Date Formula

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$$Y = \frac{\sum_{i=1}^{n} x_i \cdot f_i}{\sum_{i=1}^{n} f_i}$$

WHERE x_i = THE MEDIAN DATE FOR THE MANUFACTURE OF EACH CERAMIC TYPE

f_i = THE FREQUENCY OF EACH CERAMIC TYPE

n = THE NUMBER OF CERAMIC TYPES IN THE SAMPLE

BRUNSWICK TOWN, NORTH CAROLINA RUIN S7

CERAMIC TYPE	TYPE MEDIAN (x_i)	SHERD COUNT (f_i)	PRODUCT ($x_i \cdot f_i$)
22	1791	483	43953
33	1767	25	1675
26	1730	62	1860
34	1760	32	1920
36	1755	55	3025
37	1733	40	1320
43	1758	327	18966
49	(1750)	583	29150
44	1738	40	1520
47	1748	28	1344
39	1730	241	7230
53,54	1733	52	1716
56	1733	286	9436
29	1760	9	540
		2263	123657 ÷ 2263 (+ 1700) = 1754.6

HISTORIC DATES 1734-1776

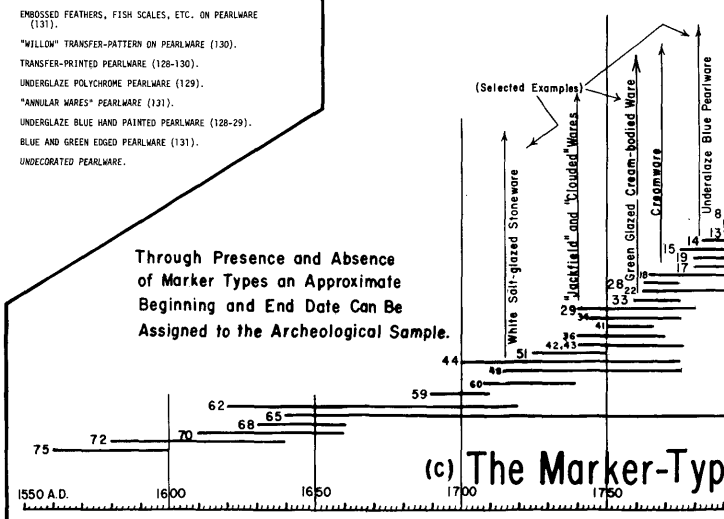
HISTORIC MEDIAN DATE 1755

MEAN CERAMIC DATE 1754.6

PIPESTEM DATE 1756

(D) A

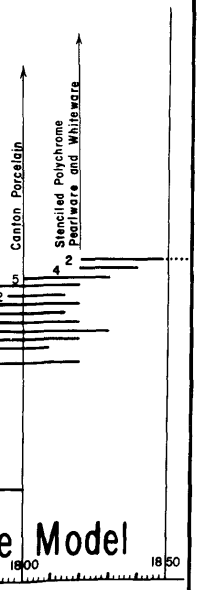
Through Presence and Absence of Marker Types an Approximate Beginning and End Date Can be Assigned to the Archeological Sample.



(C) The Marker-Typ

pplication of the Analysis Tools

The Ceramic Analysis Data from Eleven Sites Using Interpretive Occupation Brackets, Presence and Absence, and the Mean Ceramic Date Formula Compared to the Documented Site Occupation Period.



Legend

- 9 — Ceramic Type 9 Manufacture Period
- Visually Interpreted Occupation Period Brackets
- Mean Ceramic Formula Date
- Pipestem Date
- Area of Absent Types for Interpreting an Occupation End Date
- Documented Occupation Period for the Site

TALLASSEE, Tennessee
A Cherokee House Site

NIPPER CREEK, S. C.
(38RD18) Pit Contents

BRUNSWICK, N.C., RUIN S10
A Midden Deposit

PACA HOUSE, Maryland
An Annapolis Mansion (19J, 27B)
Midden Deposit

FORT PRINCE GEORGE, S.C.
A British Frontier Fort (38PN1)
Entire Collection

GOUDY'S POST, S. C.
Trading Post Plowed Zone (38GN1-3)

GOUDY'S POST, S. C.
Trading Post Cellar (38GN1-5)

BRUNSWICK, N.C. RUIN S7
A Port Town Ruin
Entire Collection

FORT MOORE, S.C.
A British Fort and Trading Post
Cellar (38AK5-A)

FIRST FORT MOORE ?, S. C.
A British Fort and Trading Post
Cellar (38AK4-15)

CHARLES TOWNE, S.C.
The First British Fort in S.C.
Fort Ditch (38CH1)

Absent 2
Absent 2-4, 9
Absent 27, 33, 35-36, 41, 42
Absent 22, 28, 33, 35, 36
Absent 17

1550 A.D. 1600 1650 1700 1750 1800 1850

South 10-14-1971

APPENDIX V

South Type No.*	(X_i) Date	Type Name	(f_i) Sherd Count	($X_i \cdot f_i$) Product
38CH50-44F				
43	1758	White salt-glazed stoneware plates	2	3516
54	1733	British brown stoneware	2	3466
15	1798	Lighter yellow creamware	14	25172
Total			18	32154

Ceramic Formula Computation

32154 ÷ 18 = 1786.3 x .87 = 1554.1 + 235.5 = 1789.6

Layer C				
5	1815	Canton Porcelain	1	1815
20	1805	Undecorated pearlware	6	10830
17	1800	Underglaze blue handpainted pearlware	2	3600
4	1830	Underglaze polychrome pearlware, directly stenciled floral patterns, bright blue, orange, green, pinkish red	5	9150
11	1818	Transfer-printed pearlware	15	27270
12	1805	Underglaze polychrome pearlware	2	3610
19	1805	Blue and green edged pearlware	2	3610
13	1805	Annular pearlware	4	7220
2	1860	Whiteware	85	158100
--	1860	Annular whiteware	41	76260
--	1860	Blue and green edged whiteware	16	29760
--	1860	Transfer printed whiteware	33	61380
1	1860	Brown stoneware bottles for ink, beer, etc.	1	1860
Total			213	394465

Ceramic Formula Computation

394465 ÷ 213 = 1852.0 x .87 = 1611.2 + 235.5 = 1846.7

*South, Stanley
1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. *The Conference on Historic Site Archaeology Papers*, Vol. 6, Columbia, South Carolina.

APPENDIX V

South Type No.* Layers 4D & 5D	(X_i) Date	Type Name	(f_i) Sherd Count	($X_i \cdot f_i$) Product
24	1780	Debased "scratch blue" white salt-glazed stoneware	2	3560
5	1815	Canton porcelain	2	3630
15	1798	Lighter yellow creamware	151	271498
14	1798	"Annular wares" creamware	4	7192
20	1805	Undecorated pearlware	136	245480
17	1800	Underglaze blue handpainted pearlware	21	37800
11	1818	Transfer-printed pearlware	137	249066
12	1805	Underglaze polychrome pearlware	27	48735
4	1830	Underglaze polychrome pearlware, directly stenciled floral patterns, bright blue, orange, green, pinkish red	18	32940
19	1805	Blue and green edged pearlware	54	97470
9	1810	Embossed feathers, fish scales, etc. on pearlware	9	16290
13	1805	"Annular wares" pearlware	34	61370
6	1843	Mocha	2	3686
8	1805	"Finger-painted" wares	3	5415
2	1860	Whiteware	32	59520
--	1860	Ironstone-whiteware	4	7440
1	1860	Brown stoneware bottles for ink, beer, etc.	9	16740
Total			645	1167832

Ceramic Formula Computation

$1167832 \div 645 = 1810.6 \times .87 = 1575.2 + 235.5 = 1810.7$

*South, Stanley
1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. *The Conference on Historic Site Archaeology Papers 1971*, Vol. 6, Columbia, South Carolina.

APPENDIX V

South Type No.* Layers 5E, 5F, & 5G	(X_i) Date	Type Name	(f_i) Sherd Count	($X_i \cdot f_i$) Product
21	1788	Debased Rouen faience	3	5364
56	1733	Lead glazed slipware (combed yellow)	1	1733
24	1780	Debased "scratch blue" white salt-glazed stoneware	2	3560
43	1758	White salt-glazed stoneware plates	1	1758
54	1733	British brown stoneware	5	8665
7	1808	Overglaze enamelled china trade porcelain	22	39776
5	1815	Canton porcelain	8	14520
15	1798	Lighter yellow creamware	202	363196
14	1798	"Annular wares" creamware	6	10788
20	1805	Undecorated pearlware	149	268945
17	1800	Underglaze blue handpainted pearlware	55	99000
10	1818	"Willow" transfer-pattern on pearlware	1	1818
11	1818	Transfer-printed pearlware	47	85446
12	1805	Underglaze polychrome pearlware	28	50540
19	1805	Blue and green edged pearlware	55	99275
9	1810	Embossed feathers, fish scales, etc. on pearlware	13	23530
13	1805	"Annular wares" pearlware	4	7220
Total			602	1085134

Ceramic Formula Computation

$$1085134 \div 602 = 1802.6 \times .87 = 1568.3 + 235.5 = 1803.8$$

South, Stanley
1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. *The Conference on Historic Site Archaeology Papers 1971*, Vol. 6, Columbia, South Carolina.

APPENDIX V

South Type No.*	(X_i) Date	Type Name	(f_i) Sherd Count	$(X_i \cdot f_i)$ Product
38CH50-44E				
43	1758	White salt-glazed stoneware plates	1	1758
54	1733	British brown stoneware	1	1733
29	1760	"Jackfield" ware	2	3520
15	1798	Lighter yellow creamware	50	89900
17	1800	Underglaze blue handpainted pearlware	1	1800
12	1805	Underglaze polychrome pearlware	1	1805
20	1805	Undecorated pearlware	2	3610
Total			58	104126

Ceramic Formula Computation

104126 ÷ 58 = 1795.3 x .87 = 1561.9 + 235.5 = 1797.4

38CH50-58D				
43	1758	White salt-glazed stoneware plates	1	1758
15	1798	Lighter yellow creamware	101	181598
23	1790	Transfer printed creamware	1	1790
17	1800	Underglaze blue handpainted pearlware	5	9000
11	1818	Transfer-printed pearlware	10	18180
12	1805	Underglaze polychrome pearlware	31	55955
19	1805	Blue and green edged pearlware	62	111910
20	1805	Undecorated pearlware	105	189525
54	1733	British brown stoneware	10	17330
Total			326	587046

Ceramic Formula Computation

587046 ÷ 326 = 1800.8 x .87 = 1566.7 + 235.5 = 1802.2

*South, Stanley
1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. *The Conference on Historic Site Archaeology Papers 1971*, Vol. 6, Columbia, South Carolina.

APPENDIX V

South Type No.*	(X_i) Date	Type Name	(f_i) Sherd Count	($X_i \cdot f_i$) Product
38CH50-13E				
43	1758	White salt-glazed stoneware plates	1	1758
54	1733	British brown stoneware	11	19063
31	1770	English Porcelain	1	1770
15	1798	Lighter yellow creamware	54	97092
14	1798	"Annular wares" creamware	7	12586
17	1800	Underglaze blue handpainted pearlware	2	3600
10	1818	"Willow" transfer-pattern on pearlware	2	3636
11	1818	Transfer-printed pearlware	8	10908
20	1805	Undecorated pearlware	28	50540
12	1805	Underglaze polychrome pearlware	7	12635
19	1805	Blue and green edged pearlware	11	19855
9	1810	Embossed feathers, fish scales, etc. on pearlware	1	1810
Total			120	216190

Ceramic Formula Computation

216290 ÷ 120 = 1801.6 x .87 = 1567.4 + 235.5 = 1802.9

38CH50-61E				
54	1733	British brown stoneware	2	3466
31	1770	English Porcelain	1	1770
15	1798	Lighter yellow creamware	7	12586
11	1818	Transfer-printed pearlware	1	1818
19	1805	Blue and green edged pearlware	4	7220
Total			15	26860

Ceramic Formula Computation

26860 ÷ 15 = 1790.7 x .87 = 1557.9 + 235.5 = 1793.4

*South, Stanley
1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. *The Conference on Historic Site Archaeology Papers 1971*, Vol. 6, Columbia, South Carolina.

APPENDIX VI

HISTORICAL DOCUMENTATION RELATING TO ARCHEOLOGICAL DATA FOR THE FIRST FORT MOULTRIE

Date	Data	Reference
June 28, 1776	Fire buckets	Moultrie 1802:178-79
October 20, 1774	non-importation of goods	Moultrie 1802:I,29
1774	improve breed of sheep	Moultrie 1802:I,31
June 29, 1782	soldiers clothing - coarse buttons, large and small...shirt buttons	Gibbes:II,196
June 29, 1782	rice (used as money)	Gibbes 1853:II,196
May 24, 1782	hides and tallow of the militia forces	Gibbes 1853:II,180
May 26, 1782	muskets, bayonets, pig lead, cartouch boxes, cask powder	Gibbes 1853:II,180
May 19, 1782	stopped 500 head of cattle from going to Virginia	Gibbes 1853:II,175
April 13, 1782	indigo, clothing	Gibbes 1853:II,163
April 13, 1782	rum, sugar	Gibbes 1853:II,163
April 19, 1782	shot, indigo (used as money)	Gibbes 1853:II,169
April 19, 1782	coffee, sugar, rice (as money)	Gibbes 1853:II,169
April 22, 1782	poultry	Gibbes 1853:II,170
April 22, 1782	osnaburgs, Russian drab, arms, and pouches with ammunition	Gibbes 1853:II,171
Jan. 5, 1782	bosses, buckles, small buckles, tacks (see card)	Gibbes 1853:II,147
Dec. 14, 1781	ammunition, arms	Gibbes 1853:III,222-23
Oct. 9, 1781	knives, sealing wax	Gibbes 1853:III,184
Oct. 9, 1781	liquor, rum, sugar, wine in cask salt	Gibbes 1853:III,184

Sept. 7, 1781	sweet potato "to contribute to the subsistence of his army"	Gibbes 1853:III,145
Sept. 9, 1781	hogshead of brandy and cask of salt no gin to be had, or spirits, can get peach brandy and flour	Gibbes 1853:III,140
Aug. 17, 1780	gun powder, ball or swan shot, flints	Gibbes 1853:III,11
Nov. 11, 1779	entrenching tools and axes	Gibbes 1853:III,1
July 4, 1779	500 pounds of powder, lead, flints and 100 stand of arms	Moultrie 1802:II,9
April 22, 1779	rice, "Meat he must provide daily on the road" corn, flour	Moultrie 1802:I,378
Nov. 28, 1778	lead, gun powder, medicine chest	Moultrie 1802:I,245
June 4, 1778	one camp kettle to ten, twelve or fifteen men is not enough nor one canteen to six or eight men	Moultrie 1802:I,213
June 4, 1778	pork, 150 barrels	Moultrie 1802:I,216, 218-19
May 31, 1776	"the lead taking from the windows of the churches and dwelling houses, to cast into musket balls, and every preparation to receive an attack,..."	Moultrie 1802:I,140-41
1778	salt imported through 6 vessels prize ship taken	Moultrie 1802:I,198,211
June 9, 1782	coffee and sugar, mutton, veal and poultry "are not soldiers' food" Marion to Horry	Gibbes 1853:II,187-88
June 21, 1776	hoes, spades, but no helves to them Moultrie from Charles Lee	Moultrie 1802:I,160
Nov. 14, 1778	bricks, lime, timber, axes, saws	Moultrie 1802:I,241
Nov. 14, 1778	500 head of cattle to be salted Indian corn "for the support of troops" and "to supply Fort Moultrie"	Moultrie 1802:I,241
Nov. 14, 1778	hoes, axes spades, saws	Moultrie 1802:I,241
May 24, 1778	Pinckney requests: "...500 canteens, 100 and 35 or 40 tents..."	Moultrie 1802:I,213

May 9, 1778	hogsheads of water for the troops	Moultrie 1802:I,414
May 7, 1780	Americans surrendered "40 head of black cattle, 60 sheep, 20 goats, 40 fat hogs."	Allaire 1780; 1968:16

APPENDIX VII

HISTORICAL DOCUMENTATION RELATING TO PERSONNEL AT FORT MOULTRIE

The First Fort Moultrie

Date	Reference	Personnel and Regimental Reference
June 17, 1775	Moultrie 1802:I,75,84	William Moultrie commissioned a colonel of "the second regiment in the provincial service" "the second regiment of foot".
Oct. 27, 1775	Moultrie 1802:I,93	30 seamen from the first and second regiments put on board the Defence schooner.
Jan. 1776	Moultrie 1802:I,116	"fascine battery" begun on Sullivan's Island, manned by first and second regiments.
Feb. 13, 1776	Moultrie 1802:I,123-24	Col. Gadsden takes command on Sullivan's Island, fort being built to hold 1000 men;seen as key to Charleston harbor; British preparing for an expedition against the port.
June 1776	Bearss 1968c:60	"The fort was garrisoned by 344 officers and men of the 2d South Carolina Infantry and 20 members of the 4th South Carolina Artillery Regiment."
June 28, 1776	Gibbes II:16	Garrison consisted of 2d Regiment of Provencials a Detachment of Artillery, and some Volunteers under the command of Col. William Moultrie.
July 1, 1776	Moultrie 1802:I,171	Huger's regiment offered to work at the fort.
July 6, 1776	Moultrie 1802:I,172	Negroes helping to build the fort.
Sept. 20, 1776	Moultrie 1802:I,187	Second South Carolina Regiment of Foot is transferred to the "continental establishment" continental line.
Nov. 26, 1776	Gibbes :II,36,46	General Gadsden at work on the fort.
Jan. 9, 1777	Moultrie 1802:I, 188	General Gadsden at Fort Moultrie.
Dec. 24, 1777	Garner 1973:11	Col. Pinckney at Fort Moultrie.
1777-1778	Garner 1973	Fort under construction.

ay 24, 1778	Moultrie 1802:I,214,224, 225 Uhlendorf 1938,157	Indians with British in Georgia [Cherokee].
ug. 25, 1778	Gibbes :II,97-98	Francis Marion commander of Second Colonial Regiment.
eb. 1779	Moultrie 1802:I,334 Uhlendorf 1938:157	500 Indians [Cherokee] waiting to assist British in Savannah, Georgia against Americans.
ay 14, 1779	Moultrie 1802:I,442 Uhlendorf 1938:157	British army said to be around 3,500 including 300 or 400 Indians [Cherokee].
pril 11, 1779	Moultrie 1802:I,376	Lt. Gov. Bee to Brig. Gen. Moultrie: says Fort Moultrie should not be garrisoned by militia or recruits entirely, "which would be the case if any more of the second regiment are sent away" thinks the the garrison too weak already.
pril 20, 1779	Moultrie 1802:I,376	Moultrie to Lt. Governor Bee: Orders Colonel Marion down to Fort Moultrie.
pril 24, 1779	Moultrie 1802:I,382,397	Moultrie asks for a few Catawba Indians to serve as scouts.
ay 2, 1779	Moultrie 1802:I,416,419	Gov. Rutledge sends for a "parcel" of Catawba Indians to be embodied" for use by William Moultrie."
ay 21, 1779	Moultrie 1802:I,419	Moultrie to Lincoln: 90*Catawba Indians on their way to join Lincoln.*[Perhaps only 45?].
ay 1779	Moultrie 1802:I,448	Col. Marion with detachment of the Second Regiment ordered to Fort Moultrie.
une 10, 1779	Moultrie 1802:I,476	40 men sent to reinforce the garrison, making it 300 strong, under General Marion.
780	Uhlendorf 1938:157	Cherokee Indians with British in Savannah, 300 present, with 1000 more expected to join soon.
pril 24, 1780	Moultrie 1802:II,79	Most of the First South Carolina Regiment came into garrison at Charleston with Col. C. Pinckney from Fort Moultrie.
pril 1780	Bearss 1968c:128	Lt. Col. William Scott was left in charge after Pinckney left with the First South Carolina Infantry.
ay 6, 1780	Moultrie 1802:II,84	British flag seen flying at Fort Moultrie, fort apparently in the hands of British.

May 7, 1780	Uhlendorf :81	News received that Admiral Arbuthnot had taken Fort Moultrie with 150 prisoners.

THERE IS NO RECORD OF THE BRITISH REGIMENTS STATIONED AT FORT MOULTRIE FROM 1780 to 1782

Dec. 14, 1782	Moultrie 1802:II,361	"This fourteenth day of December, 1782 ought never to be forgotten by the Carolinians; it ought to be a day of festivity with them, as it was the real day of their deliverance and independence." William Moultrie

The Second Fort Moultrie

Date	Reference	Personnel and Regimental Reference
At lease May 1799 to March 1800	Bearss 1968a:68-69	Francis Huger Company of the Second Regiment of Artillery and Engineers.
1804	Bearss 1968a:69	Second Regiment of Artillery and Engineers at Fort Moultrie until 1804.

The Third Fort Moultrie

Dec. 19, 1809	Bearss 1968b:24	Major Macomb turned the new Third Fort Moultrie over to Lt. Col. John Smith of the Third U.S. Infantry, and Louis Leval's Troop of Light Dragoons.
1826	Bearss 1968b:35	Third Regiment still at the fort.
Jan. 1836	Bearss 1968b:44,80	First Artillery leaves for Florida. [No indication when it came]
1836 to 1842	Bearss 1968b:44-45	No garrison at Fort Moultrie.
June 24, 1842	Bearss 1968b:45,105	Third U.S. Artillery at Fort Moultrie.
1842-Feb. 1847	Bearss 1968b:45,58	Third U.S. Artillery at Fort Moultrie.
Feb. 4, 1848	Bearss 1968b:56	Only 4 men on duty at Fort Moultrie.
Oct. 23, 1848	Bearss 1968b:58	Second Artillery arrived at Fort Moultrie.
1848 to May 24, 1853	Bearss 1968b:59,118	Second Artillery at Fort Moultrie.
Dec. 11, 1853 to Dec. 26, 1860	Bearss 1968b:61,65,157	First Artillery at Fort Moultrie.
January 1861-	Bearss 1968	Confederates take over the fort.

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