CERAMICS FROM THE AMERICAN STEAMBOAT PHOENIX (1815-1819),
AND THEIR ROLE IN UNDERSTANDING SHIPBOARD LIFE

A Thesis
by
LESTER JAMES HADDAN

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of
MASTER OF ARTS

May 1995

Major Subject: Anthropology
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May 1995

Major Subject: Anthropology
ABSTRACT

Ceramics from the American Steamboat Phoenix (1815-1819), and Their Role in Understanding Shipboard Life. (May 1995)
Lester James Haddan, B.E.D., Texas A&M University
Chair of Advisory Committee: Dr. Kevin J. Crisman

Ceramics recovered from the steamboat Phoenix are used to examine life aboard an early American passenger steam-driven vessel. The primary goal of the research is to establish what general type of surroundings passengers experienced on the ship, whether or not these surroundings were luxurious or simple, and how they compared to contemporary life on land. Historical accounts describe the ship as a fine vessel outfitted with the finest appointments, a vessel fit for presidents and one which successfully ferried passengers between Whitehall, New York and St. John, Quebec for five seasons beginning in 1815 and ending in 1819 when it was virtually destroyed by fire. The framework for this examination will be developed by categorizing the ceramics recovered from the wreck, examining each ceramic type in detail, interpreting the ceramic distribution from the wreck site, and analyzing the contemporary ceramic markets with an emphasis on differences between urban and rural customers. Ceramics from the ship will be illustrated by diagnostic examples of each category and technical information on ceramic
manufacturing will provide supplemental information. The review of the ceramic artifacts demonstrates that inexpensive, mass produced refined earthenware dominates the assemblage. The more elaborately decorated examples of this ware (transfer-print and hand-painted) are mostly limited to teawares. Stoneware and coarse earthenware were also recovered from the wreck and are found to be almost exclusively limited to food storage and preparation vessels. The results of this examination will demonstrate that in at least one aspect of life, dining styles, the ship was similar to contemporary rural homes, inns, or taverns.
DEDICATION

This thesis is dedicated to my aunt, JoAnn Snodgrass. She was the first individual to fully recognize my love of history and books. Her encouragement during my youth was instrumental in my subsequent pursuit of higher education.
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I would like to thank Dr. Kevin J. Crisman for his support in the preparation of this thesis. His patience in my slow pace and his kind comments have been greatly appreciated. I would also like to thank Dr. Donny L. Hamilton and Professor David G. Woodcock for their comments, suggestions, support, and patience.

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My mother, Marilyn Higley, deserves the greatest thanks for her constant support. I doubt I would have accomplished what I have without her (as well as the rest of my family’s) good example.

I would like to thank New York State Office of Parks, Recreation, and Historic Preservation, Senior Scientist, Paul Huey, for his invaluable information on taverns. And, last of all, I would like to thank Vermont State Archaeologist, Giovanna Peebles for permission to study the ceramics from the Phoenix. Without her help this paper would not have been possible.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vi</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xiii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>The <em>Phoenix</em>: A Background</td>
<td>3</td>
</tr>
<tr>
<td>The <em>Phoenix</em>: Its Fiery End</td>
<td>9</td>
</tr>
<tr>
<td>The <em>Phoenix</em>: Its Discovery</td>
<td>13</td>
</tr>
<tr>
<td>Artifact Recovery Expedition</td>
<td>15</td>
</tr>
<tr>
<td>RESEARCH METHODOLOGY</td>
<td>18</td>
</tr>
<tr>
<td>Catalog Procedure</td>
<td>20</td>
</tr>
<tr>
<td>Artifact Cleaning</td>
<td>23</td>
</tr>
<tr>
<td>Labeling</td>
<td>24</td>
</tr>
<tr>
<td>Ceramic Reconstruction</td>
<td>26</td>
</tr>
<tr>
<td>Drawing</td>
<td>26</td>
</tr>
<tr>
<td>ARTIFACT CATEGORIES</td>
<td>28</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>REFINED EARTHENWARE</td>
<td>35</td>
</tr>
<tr>
<td>Background</td>
<td>35</td>
</tr>
<tr>
<td>The Production Process</td>
<td>38</td>
</tr>
<tr>
<td>Refined Earthenware Artifacts</td>
<td>45</td>
</tr>
<tr>
<td>Diagnostic Artifacts: Refined Earthenware</td>
<td>48</td>
</tr>
<tr>
<td>COARSE EARTHENWARE</td>
<td>66</td>
</tr>
<tr>
<td>Background</td>
<td>66</td>
</tr>
<tr>
<td>The Production Process</td>
<td>67</td>
</tr>
<tr>
<td>Coarse Earthenware Artifacts</td>
<td>77</td>
</tr>
<tr>
<td>Diagnostic Artifacts: Coarse Earthenware</td>
<td>77</td>
</tr>
<tr>
<td>STONEWARE</td>
<td>82</td>
</tr>
<tr>
<td>Background</td>
<td>82</td>
</tr>
<tr>
<td>Stoneware Artifacts</td>
<td>84</td>
</tr>
<tr>
<td>Diagnostic Artifacts: Stoneware</td>
<td>84</td>
</tr>
<tr>
<td>ARTIFACT CONCENTRATIONS ON SITE</td>
<td>95</td>
</tr>
<tr>
<td>Background</td>
<td>95</td>
</tr>
<tr>
<td>Establishing Concentrations</td>
<td>97</td>
</tr>
<tr>
<td>Results</td>
<td>98</td>
</tr>
<tr>
<td>Interpretation</td>
<td>105</td>
</tr>
<tr>
<td>FINAL DISCUSSION AND CONCLUSION</td>
<td>114</td>
</tr>
<tr>
<td>The Ceramic Market</td>
<td>115</td>
</tr>
</tbody>
</table>
Page

Rural Ceramic Assemblages ........................................ 121
Ceramics in the Urban Market ...................................... 128
Perceptions and Experiences of Contemporary Travelers .... 132
Conclusion .............................................................. 135

REFERENCES ............................................................. 139

APPENDIX .............................................................. 143

VITA ................................................................. 145
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The American steamboat <em>Phoenix</em></td>
<td>5</td>
</tr>
<tr>
<td>2. Divers at the wreck of the <em>Phoenix</em></td>
<td>14</td>
</tr>
<tr>
<td>3. Haddan artifact totals.</td>
<td>19</td>
</tr>
<tr>
<td>4. Sample catalog sheet.</td>
<td>22</td>
</tr>
<tr>
<td>5. Shaulis artifact totals.</td>
<td>29</td>
</tr>
<tr>
<td>6. Chase artifact totals.</td>
<td>30</td>
</tr>
<tr>
<td>8. Artifacts: G11 and G4-A; glass bottle base and glass bottle top (both incomplete)</td>
<td>33</td>
</tr>
<tr>
<td>9. Applying the transfer print.</td>
<td>40</td>
</tr>
<tr>
<td>10. Item 1; artifacts: C78-A and C78-B; blue transfer-print plate base (incomplete)</td>
<td>49</td>
</tr>
<tr>
<td>11. Item 2; artifacts: C109-A and C109-B; blue transfer-print teapot (incomplete)</td>
<td>51</td>
</tr>
<tr>
<td>12. Item 3; artifacts: C11-B, C11-D, C58-D, and C59-B; shell-edged dessert or cheese plate (incomplete)</td>
<td>53</td>
</tr>
<tr>
<td>13. Item 4; artifact: C69-A; shell-edged dinner plate fragment.</td>
<td>54</td>
</tr>
<tr>
<td>14. Item 5; artifact: C8-A; blue transfer-print teabowl fragment.</td>
<td>56</td>
</tr>
<tr>
<td>15. Item 6; artifact: C6-A; blue transfer-print saucer fragment.</td>
<td>57</td>
</tr>
<tr>
<td>16. Item 7; artifact: C106-B; blue painted teabowl fragment.</td>
<td>59</td>
</tr>
<tr>
<td>17. Item 8; artifact: C87-A; blue painted saucer fragment.</td>
<td>60</td>
</tr>
</tbody>
</table>
18. Item 9; artifacts: C96, C9-B, C87-B, and C10-A; blue painted saucer (incomplete). .......................................................... 62

19. Item 10; artifacts: C61-A, C61-B, and C61-C; chamber pot rim (incomplete). .......................................................... 63

20. Item 11; artifacts: C24-A and C24-B; bowl rim (incomplete). .......... 65

21. Potters wheel................................................................. 68

22. Assortment of potters ribs. ............................................. 70

23. The batting process....................................................... 71

24. Section of a quern......................................................... 73

25. Updraft kiln................................................................. 75

26. Example of vessel stacking for firing................................ 76

27. Item 1; artifact: C88; incised crock rim fragment. .................. 79

28. Item 2; artifacts: C84-A, C84-B, C84-C, C84-D, and C84-E; unidentified sherds. .................................................. 81

29. Item 1; artifact: C107-B; unidentified sherd. ....................... 86

30. Item 2; artifact: C85-A; bottle top fragment. ....................... 88

31. Item 3; artifact: C56-A; bottle base fragment. ...................... 89

32. Item 4; artifacts: C89 and C43; large jug rim (incomplete). ........ 90

33. Item 5; artifacts: C95-A, C95-B and C95-C; small crock rim (incomplete). .......................................................... 92

34. Item 6; artifacts: C52 and C99-A; inkwell with quill holder (incomplete). .......................................................... 93

35. The remains of the Phoenix ............................................. 96
<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>36. Refined earthenware concentrations.</td>
<td>100</td>
</tr>
<tr>
<td>37. Coarse earthenware concentrations.</td>
<td>101</td>
</tr>
<tr>
<td>38. Stoneware concentrations.</td>
<td>104</td>
</tr>
<tr>
<td>39. Metal concentrations.</td>
<td>107</td>
</tr>
<tr>
<td>40. Glass concentrations.</td>
<td>109</td>
</tr>
<tr>
<td>41. The remains of the <em>Phoenix</em> with food-related tasks defined.</td>
<td>113</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1. Refined earthenware vessel forms and totals</td>
<td>46</td>
</tr>
<tr>
<td>2. Refined earthenware types and totals</td>
<td>47</td>
</tr>
<tr>
<td>3. Coarse earthenware vessel forms and totals</td>
<td>78</td>
</tr>
<tr>
<td>4. Stoneware vessel forms and totals</td>
<td>85</td>
</tr>
<tr>
<td>5. Refined earthenware concentrations</td>
<td>99</td>
</tr>
<tr>
<td>6. Coarse earthenware concentrations</td>
<td>102</td>
</tr>
<tr>
<td>7. Stoneware concentrations</td>
<td>103</td>
</tr>
<tr>
<td>8. Metal concentrations</td>
<td>106</td>
</tr>
<tr>
<td>9. Glass concentrations</td>
<td>108</td>
</tr>
<tr>
<td>10. Crate number 10 inventory, Boggs and Thomson auction</td>
<td>119</td>
</tr>
<tr>
<td>11. Ceramic types and totals, Chimney Point Tavern</td>
<td>125</td>
</tr>
<tr>
<td>12. Ceramic types and totals, Searight Tavern</td>
<td>127</td>
</tr>
<tr>
<td>13. Crate number 29 inventory, Hoffman and Glass auction</td>
<td>130</td>
</tr>
<tr>
<td>14. Ceramic types and totals, Man Loaded with Mischief Tavern</td>
<td>133</td>
</tr>
</tbody>
</table>
INTRODUCTION

At the turn of the 19th century several early glimmers of technological change were appearing on America’s horizon, and they would forever change the lives of her inhabitants. Though the full brunt of America’s Industrial Revolution was still several decades in the future, a variety of radical technologies were being introduced to an often dubious public. One of these technologies, the steam-powered ship, was to eventually have a profound effect on America and the world. No longer would travelers be totally at the mercy of the winds. Instead, they could look to the power of steam for aid in their centuries-old desire to quickly cross even the largest bodies of water.

However, when the first commercially successful steam-driven vessel, the North River Steamboat of Clermont, was introduced by Robert Fulton and Robert Livingston in 1807 (Davison, ed. 1981a:1), the American public was less than enthusiastic. These nautical pioneers were often regarded as, at best, nuisances, but more often, ridiculous smoke-belching monsters. The lukewarm reception did not deter many enterprising entrepreneurs who were soon developing plans to utilize this new technology to its fullest commercial potential. And, within a short time, the American public would enthusiastically accept steamships as a vital element in their

The journal model used for this thesis is Historical Archaeology.
own transportation network. Appropriately, a great deal of historical study has been devoted to the development of the steamboat, but little attention has focused on the day-to-day activities aboard ship. This oversight limits our full understanding of these early vessels. Thus, a study of daily shipboard life is vitally important: it quenches the curious academic mind and provides a better foundation for understanding the extreme societal changes Americans experienced when their technological base shifted rapidly during the 19th century. As a step toward the fulfillment of this goal an assemblage of artifacts from the Phoenix, a passenger steamship that sank in 1819 while crossing Lake Champlain, was selected for investigation.

The Phoenix offers a unique opportunity to study life on board an early steamship. First, she was a passenger vessel. Second, details of her operational life (including the dates she was launched and lost) have been reasonably documented. Third, recent expeditions to the site of the wreck have recovered a range of artifacts, especially ceramics, which are extremely helpful in reconstructing past lifeways.

The Phoenix's role as a commercial passenger ship is key to understanding her artifact assemblage. The ship carried passengers on an important and well-traveled inland route and objects found on board likely represent those used by a cross-section of American society. For example, on a typical journey the ship might have carried a wealthy
businessman, his wife, and their personal servants, traveling to conduct business in Canada. Additionally, tradesmen, farmers, tourists, immigrants, and government officials could easily complete a possible passenger list and, of course, one cannot forget the members of the crew. In contrast, a cargo ship specializing in raw materials, agricultural goods, or manufactured items would have a more limited value to this study. Such a ship would mainly serve as a temporary home for crew members. Thus, objects found on board would focus on one very specific group of people, which is not the intent of this examination.

The *Phoenix*: A Background

In September of 1812, Elihu Bunker, an early shipping rival of Robert Fulton, won a legal concession for rights to operate steam-powered vessels on Lake Champlain. Earlier, Bunker had operated the steamboats *Hope* and *Perseverance* on the Hudson River in conflict with a state decision granting Fulton a monopoly on the operation of steam-powered vessels on New York waterways (this grant rewarded Fulton’s success in designing and operating a practical steamboat.). Bunker’s Lake Champlain concession contained two specific stipulations. First, he had to sell his two existing steamboats, although he was allowed to keep their steam engines. Second, he had to have at least one operational steamboat on Lake Champlain no later than 18 months after the termination of hostilities with Great Britain (the War of 1812 had begun in June of 1812). Final
approval of Bunker's victory was granted on 12 March 1813 when the New York legislature approved the exclusive rights to steam-powered navigation on Lake Champlain to the Lake Champlain Steamboat Company, a group of Bunker investors (Davison, ed. 1981a:3).

Not long after, the Lake Champlain Steamboat Company commissioned the construction of a 120 ft. long vessel. Construction had barely started in February of 1814 when the United States Navy procured the unfinished ship for wartime use. She was quickly converted to a schooner and entered service as the *Ticonderoga*. However, the Company's second attempt was successful and in the spring of 1815, four months after the end of the War of 1812, the *Phoenix* was launched. Built by Mr. Roberts at Vergennes, Vermont, she was 147 ft. in length, 27 ft. in beam, and displaced 336 tons. Her steam engine supplied 47 horsepower for a top speed of eight miles per hour. The complete cost of construction was $45,000 (Davison, ed. 1981b:6). Unlike Fulton's earliest vessels, which were designed with a long, extremely narrow and flat-bottomed hulls for river use, the *Phoenix* combined aspects of both sail and steam technologies for use in deeper water. The vessel's bottom was rounded with a single mast stepped well forward (Davison, ed. 1981a:8). See Figure 1 for a profile view of the ship based on archaeological measurements of the hull and contemporary plans of similar steamers.
FIGURE 1. The American steamboat Phoenix (Courtesy of Kevin Crisman, Texas A&M University, College Station).
For the next five seasons the *Phoenix* supplied steady passenger service between Whitehall, New York and St. John, Quebec and in 1816 a sister-ship, the *Champlain*, was launched. These two vessels sailed from opposite ends of the lake every Wednesday and Saturday. A full fare was $10.00, but passengers could buy partial fares if they wished to travel only a portion of the distance. They all were required to pay a minimum passenger fare of $1.00 (Davison, ed. 1981b:6).

Benjamin Silliman, a Yale University professor making a tour between Hartford, Connecticut and Quebec, described a similar steamboat journey he took on Lake Champlain shortly after the *Phoenix* was lost. He specifically detailed the passage to Fort Ticonderoga. The trip began in Whitehall, New York where his carriage and horses were taken aboard the steamboat *Congress* (a convenience he had not expected). The vessel, operated by the owners of the ill-fated *Phoenix*, left Whitehall at approximately 2:00 P.M. and traveled for many miles on a portion of the lake that Silliman described as “nothing more than a narrow sluggish river” (Silliman 1824:16). As the *Congress* progressed down this narrow channel it passed the dismantled War of 1812 flotillas of McDonough and Downie that the author called “coffins of the brave” and “sad monuments of the bloody conflict.” (Silliman 1824:16).
As the boat progressed, Silliman remarked that "it seems as if the lake had been poured into the only natural basin, of magnitude, which exists in this mountainous region, and as if its boundaries were irrevocably fixed, by the impassable barriers of rocks and alpine land." (Silliman 1824:17). Later that day he viewed a lovely sunset behind Mount Defiance as the vessel passed the ruins of Fort Ticonderoga. Silliman's description of the Lake Champlain portion of his journey leaves the reader with a sense of the history and physical beauty which passenger's on the Phoenix would have enjoyed.

Travel on board such a steamboat in early 19th century America was often described as opulent especially in comparison to land travel. John Fowler, another 19th century British tourist, boarded the Hudson River steamer Albany in New York City and wrote, she "is the most splendid conveyance I ever moved in, in my life" (Haydon 1982:20). Later he noted that the steamship North America, was even more luxurious (purely by hearsay since he never saw the vessel).

The North America, launched in 1827 from a New York shipyard, weighed some 497 tons, was 218 ft. long, and was powered by two wood-burning engines. She became part of the Hudson River Steamboat Association and during her two-year career served as a day-boat running between New York and Albany. In December of 1830 Thomas Hamilton was a passenger on the ship and offered the following description:
The accommodation . . . consisted of two cabins, which I
 guessed, by pacing them, to be a hundred and fifty feet in
 length. The sternmost of these spacious apartments is
 sumptuously fitted up with abundance of mirrors, ottomans,
 and other appurtenances of luxury. The other, almost
 equally large, was very inferior in point of decoration. It
 seemed intended for a sort of tippling-shop, and contained a
 bar, where liquors of all kinds, from Champagne to small
 beer, were dispensed to such passengers as have inclination
 to swallow, and money to pay for them. The sides of both of
 these cabins were lined with a triple row of sleeping-berths;
 and as the sofas and benches were likewise convertible to a
 similar purpose, I was assured, accommodation could be
 easily furnished for about five hundred (Haydon 1982:21).

In comparison, diver Jack Chase hypothesizes in his 1983 *Phoenix*
 project report that the *Phoenix*’s smaller interior consisted of a “crew’s
 quarters forward of the engine (the engine is believed to have been located
 one-third of the distance from the bow to the stern), a men’s cabin/dining
 salon immediately abaft the engine, and an adjoining ladies’ cabin in the
 stern.” (Chase 1983:5). On the starboard side of the engine was the
 captain’s cabin and on the port side was the pantry. Chase believes that
 cooking was accomplished using either wood stoves in the dining salon
 and crew’s quarters or on stoves heated by the steam from the vessel’s
 boilers.

One summer, during the late 1820s, James Stuart (another British
 tourist) traveled on board the *North America* and described the meals
 served on board the ship. These meals cost a flat-rate of 50 cents per
 person per sitting.
We had breakfast and dinner in the steam-boat. The stewardess observing that we were foreigners, gave notice to my wife some time previous to the breakfast-bell at eight, and dinner-bell at two, so that we might have it in our power to go to the cabin, and secure good places at table before the great stream of passengers left the deck. Both meals were good, and very liberal in point of quantity. The breakfast consisted of the same articles that had been daily set before us at the city hotel, with a large supply of omelettes in addition. The equipage and the whole style of the thing good. The people seem universally to eat more animal food than the British are accustomed to do, even at such a breakfast as this, and to eat quickly.

The dinner consisted of two courses, 1. of fish, including very large lobsters, roast-meat, especially roast-beef, beef-steaks, and fowls of various kinds, roasted and boiled, potatoes and vegetables of various kinds; 2. which is here called the dessert, of pies, puddings, and cheese.

Pitchers of water and small bottles of brandy were on all parts of the table; very little brandy was used at that part of the table where we sat. A glass tumbler was put down for each person; but no wine-glasses, and no wine drank. Wine and spirits of all sorts, and malt liquors, and lemonade, and ice for all purposes, may be had at the bar, kept in one of the cabins. There is a separate charge for the brandy put down on the dinner table, which may be used at pleasure. The waiters will, if desired, bring any liquor previously ordered, and paid for to them (sic), or at the bar, to the dining-table (Haydon 1982:22).

Such a menu would remind late 20th century travelers of those lavish, all-you-can-eat buffets served aboard today’s fleet of “portly” cruise ships endlessly crisscrossing the Caribbean.

The Phoenix: Its Fiery End

The Phoenix enjoyed a successful operational career (except for occasional engine malfunctions). One highlight of this career came on 26 July 1817, when President James Monroe traveled aboard her on a journey
from Burlington, Vermont to Plattsburgh, New York (Davison, ed. 1981b:7; Crisman 1986:25). Sadly, this success came to a fiery end on the night of 4 September 1819 when the Phoenix left Burlington at 11 p.m. and turned northward for Plattsburgh with a total complement of 46 passengers and crew. Jahaziel Sherman, the ship's captain, was ashore, confined to bed with a fever and his 21-year-old son Richard W. Sherman commanded the vessel in his place. Later that night passenger John Howard noticed a fire and immediately roused the other passengers and crew. In a scene reminiscent of a present-day Hollywood disaster movie, Captain Sherman, brandishing two pistols, took control of the panicked passengers as they attempted to launch the two lifeboats. A capacity group of 20 people boarded the first boat, but the second was cut loose from the burning vessel with less than capacity. These two lifeboats headed toward Providence Island. Upon landing one of the boats returned to the Phoenix to search for survivors (Davison, ed. 1981b:8-9; Crisman 1986:25).

Of the 11 individuals stranded on the ship only acting captain Richard Sherman, clinging to a table leaf, was found by the returning lifeboat. Luckily, the fire had been spotted from Burlington and additional relief vessels had been sent to aid in the search for survivors. The final death toll stood at six (Davison, ed. 1981a:15).
A variety of possible theories exist to explain the fire. These include arson (perhaps by shipping rivals) and possible engine malfunction (Davison, ed. 1981b:8). It was widely reported at the time that the fire resulted from an accidentally overturned candle (Wright 1963:154), a convenient explanation that placed no blame on the new technology, the ship's owners, or any rivals. Whatever the reason for the fire, the Phoenix burned to the water line and her remains drifted to a temporary resting place, partially above water, on Colchester Shoal. No one is sure how long the hulk remained on the shoals; but it stayed long enough for the Lake Champlain Steamboat Company to strip the remains of any valuable components. Winter ice probably trapped the ship until the spring of 1820, when the thawing process dragged it clear of the shoals allowing it to slip to its final resting place on the lake bottom, 90 ft. (15 fathoms) below the surface (Davison, ed. 1981b:11).

The disaster garnered the attention of many contemporary writers. Benjamin Silliman mentioned the destruction of the Phoenix in his 1824 travel account and pointed the finger of blame squarely at the infamous overturned candle. Silliman even devoted an entire section of his book to the danger of fire on steamboats and mentioned seeing an open, unwatched stove on a Canadian boat. The stove had no chimney and the fire's coals frequently fell on the dry pine, pitch-covered deck. Later he described the steamboats' boilers as:
the active volcano which the steam boat necessarily carries in
her bowels, seems sufficiently appalling, and few persons,
when first beginning to travel in this way, can lie down to
sleep, without deeply pondering, that a furious imprisoned
enemy is raging within the combustible vehicle that bears
them along, and that both fire and water, usually foes, but
here leagued in unnatural alliance, may conspire for their
destruction (Silliman 1824:343).

Frances Wright, in her Views of Society and Manners in America,

wrote a stirring account of the event. One section in particular gives a

vivid picture of the ordeal faced by those on board the burning steamboat:

In the meantime the young captain roused his crew and his
male passengers, warning the pilot to make for the nearest
island. Summoning his men around him and stating to
them that all the lives on board could not be saved in the
boats, he asked their consent to save the passengers and to
take death with him. All acquiesced unanimously, and
hastened to let down the boats. While thus engaged, the
flames burst through the decks and shrouded the pilot, the
mast, and the chimney in a column of flames. The
helmsman, however, held to the wheel, until his limbs were
scorched and his clothes half consumed upon his back. The
unusual heat round the boiler gave a redoubled impetus to
the engine. The vessel dashed madly through the waters,
until she was within a few rods of land. The boats were
down, and the captain and his men held the shrieking
women and children in their arms . . . . None could approach
to stop the engine; its fury, however, soon spent itself, and
left the flaming wreck to the mercy only of the winds and
waves (1963:155).

Such gallantry and desperate circumstances, though perhaps embellished
somewhat, are the stuff of many a modern romance novel or television
miniseries. Obviously, people in the 19th century were just as fascinated
by death and disaster as today’s culture.
The Phoenix: Its Discovery

The Phoenix remained alone in its cold, dark grave for 159 years until 4 September 1978, when divers Don Mayland, Dick Hubbard and John Mudgett found the wreck. Unfortunately, they did not realize what they had found until they registered the unidentified wreck with the Vermont Division for Historic Preservation. Here Mayland learned that Arthur Cohn, a lake historian and diver, had begun a quest to locate the Phoenix. When they pooled their information, they realized that the Phoenix had indeed been located by Mayland’s team. In August of 1979 they launched a joint dive on the site to make a final, positive identification (Davison, ed. 1981b:15). Shortly thereafter, as a result of this exciting find, the Champlain Maritime Society was formed. Its first goal was the completion of an expedition to record the wreck of the Phoenix.

In August of 1980 a five-day expedition was led by Arthur Cohn and Don Mayland. The remaining members of the team included Jack Chase, Kevin Crisman, Mike Janson, Scott McDonald, Roger Lambert, and Dean Russell. The team’s goal was to map, measure, and draw the site, which lies on a steep slope from 60 to 110 ft. below the lake surface (Figure 2). The team had a challenging five days because of the cold, dark water conditions around the wreck. Additionally, the depth of the site required that divers limit their time underwater to 15 to 25 minutes per dive, with a maximum of two dives per day. Because of these and other limiting
conditions, the project did not include the recovery of artifacts. The team was successful in its site-recording objective and a set of scale drawings of the wreck were prepared (Davison, ed. 1981a:21-23). These were used to determine possible design configurations of the ship, a real treasure for any individual studying the Phoenix, because no construction drawings exist for the ship (it was likely built without the aid of detailed plans). The result of the project was the publication of a report that included a historical background, a discussion of project procedures and interpretive drawings of the vessel.

Artifact Recovery Expedition

In 1983 a joint Vermont Division for Historic Preservation-Champlain Maritime Society project, directed by Jack Chase and Don Mayland, recovered a variety of wood, metal, glass, and ceramic artifacts from the Phoenix. These included the ceramics that are the primary focus of this study. Unfortunately, this project was flawed in several ways. The provenance of the artifacts was very general and no vertical control was maintained in the recovery and recording process. The location of each artifact was simply listed as a position between frames (the frames were numbered during the 1980 expedition). Additionally, some of the artifacts were recovered without any provenance. This is a serious problem that forever limits the study of these artifacts. Their location on the site has
been lost and development of a complete artifact distribution map is impossible. Last of all, the limited resources for the project did not allow for extensive conservation, cataloging, or study of the artifacts.

A systematic study of the artifacts was not made until 15 July 1985, when Shelley Hight of the Vermont Division for Historic Preservation conducted a very brief examination of the ceramics. This examination produced a useful report that indicated the range of material present, discussed the possible layout of the Phoenix, and made valuable suggestions on how to proceed with the study. Additionally, she gently suggested a variety of improvements for those interested in conducting similar expeditions.

An initial (but incomplete) catalog of the artifacts was not started until September of 1989, when archaeologist Heidi Shaulis retrieved the artifacts from storage at the University of Vermont. In her catalog and report, Shaulis wrote about the condition of the artifacts:

they were being stored in five containers; one plastic tub held metal and wood artifacts standing in water. There were three metal containers; one holding metal artifacts in water, the other two holding dry ceramics and glass. A fifth container, a cardboard box, held metal which had been electrolysized (sic). Within the containers, most of the artifacts were grouped by type and sometimes location in plastic bags. On the top of one of the dry metal containers lay a small stack of catalog sheets, incomplete and impossible to relate to the artifacts. The condition of the ceramics was good; they were dry, . . . . The metal which was electrolysized (sic) was in good condition and stable. The metal and wood in water, however, were in very poor condition. Not only have they
been rapidly degrading, but many were simply jumbled together in the water, making it necessary to divide and bag them (1990:1-2).

This delayed effort at cataloging certainly made her efforts all the more difficult (specific catalog processes will be discussed in a later section). But, what is most important, valuable diagnostic information was lost during this period of inactivity.
RESEARCH METHODOLOGY

In April 1991, Giovanna Peebles, Vermont State Archaeologist, granted permission for the shipment of the metal, glass, and ceramic artifacts to Texas A&M University for study. In June of that year Kevin Crisman packed and shipped the artifacts to the New World Nautical Archaeology Laboratory on the College Station, Texas campus. Included with the artifacts were copies of catalog sheets completed by Heidi Shaulis in February 1990, ink drawings of selected artifacts, and a set of black and white photographs all of which were completed during her cataloguing procedure. Upon receipt, the artifacts and associated documentation were unpacked and examined. This examination revealed that the collection received in Texas was not completely catalogued. A review of the Shaulis catalog and the A&M artifacts revealed a total of 750 items (Figure 3), a sum used throughout this study as the total artifact count. The collection, as received, did not include all 750 objects.

Since the artifact catalog was incomplete, the first research decision was how to complete that task. There were two basic options. First, develop an entirely new procedure and catalog the entire collection or finish the existing Shaulis catalog using her procedural methods. A review of the Shaulis documentation revealed that her methods were entirely appropriate to the artifacts under examination, though there was an absence of extensive artifact provenance information on the catalog sheets.
FIGURE 3. Haddan artifact totals.
However, this absence was a result of the artifact recovery methodology and the inability of the recovery team to complete appropriate conservation and cataloging immediately after the removal of the objects from the Phoenix site. The cataloging method was not at fault. Therefore, the decision was made to finish the catalog using her methods (with some slight changes) rather than to begin anew. The portion of the catalog completed by Shaulis was not altered in content or style. Slight style adjustments were developed for the portion completed at Texas A&M University. The cataloguing procedure is described in the following text.

Catalog Procedure

All artifacts were divided into four groups based on material type. The first letter of each material type was used as the first part of the catalog code. Material types and their corresponding letter code are listed below.

1. Ceramic = C
2. Glass = G
3. Metal = M
4. Wood = W (no wood was received at Texas A&M)

Artifacts were sorted and placed in plastic bags with artifacts of the same material type, decoration, and location (if known). A Mylar catalog code tag was placed in each of these bags. The catalog code began with the material code letter (discussed above) and was followed by a number assigned consecutively to each bag (beginning with "1"). If the bag contained more than one artifact each item also received a letter,
beginning with the letter "a". Thus, a catalog code had a minimum of two parts and a maximum of three. An example of one of these catalog codes is: C-92 a, b. This code denotes one plastic bag (the 92nd of the collection) containing two (a and b) ceramic artifacts (C=ceramic).

After the artifacts were sorted and placed in plastic bags with identifying Mylar labels, a catalog sheet was completed for each plastic bag. An example of a catalog sheet follows in Figure 4. The catalog sheet recorded information on material type, number of pieces, general description, decoration description (if any), condition, size, and location (if known). The form also contained areas for listing specific details of the recovery effort. Such information was very limited.

During the 1983 artifact recovery expedition only general provenance information was recorded for the artifacts. Such information was recorded using a simple location code system described by Davison, ed. (1981a:28). This code began with a number corresponding to an actual frame of the Phoenix. These numbers were established by sequentially numbering the frames from bow to stern, a process completed during the 1980 wreck recording expedition. The second, and last part of the code was either a "P" (for port) or an "S" (for starboard). These codes (when available) were included on the catalog sheets.
PHOENIX PROJECT
ARTIFACT RECORD

Item(s): __Ceramic Fragments________ Field Number: __C-92 a, b

Excavator: ______________ Date: __________ Unit #: __________

Location: __________ 16-S __________

Material(s): __Pearlware______________________________

Number of items/pieces: __________ Two __________

Condition: __________ Fair • some iron discoloration __________

Description: __________ (a) Rim fragment of a blue shell-edged plate. Small portion of plate base remains attached. (b) Fragment of plate base similar to (a), but possibly not from same plate - impressed anchor (a maker’s mark) on bottom. __________

(a) 4 1/8 X 2 1/8 X 3/16 in. thick • 10 1/2 in. rim diameter

(b) 3 7/8 X 2 3/4 X 3/16 in. thick • 8 in. base diameter

Drawn: __________ Penciled __________ Photographed: __________ B&W __________

Inked __________ Color __________

FIGURE 4. Sample catalog sheet.
On the back of each catalog sheet full-size sketches of the artifact(s) were completed. Shaulis' usually included side and front views with dimensions. For small body sherds she sometimes used only one drawing. For the portion of the catalog completed at Texas A&M University each artifact was drawn using one front view and, if needed, one section. Dimensions were also included. After sketching this researcher also initialed and dated each catalog sheet (not part of the Shaulis procedure).

Once the catalog sheets were complete black and white photographs were taken of the artifacts. Film roll numbers and exposure numbers were listed on the appropriate section of the catalog sheet. This researcher chose to photograph several ceramics that had been previously cataloged and photographed by Shaulis. The additional photography was intended to provide style consistency for this report and was limited to ceramics judged to be of special diagnostic value to this study.

Artifact Cleaning

During the cataloging procedure it was noted that many ceramics were in rather poor condition and needed cleaning. The fire that destroyed the Phoenix and years of exposure to corroding metals caused many ceramic artifacts to become discolored and charred. After consultation with D.L. Hamilton at Texas A&M University's Nautical Archaeology Conservation Lab, it was decided to clean the entire collection of ceramics using a 5
percent solution of hydrochloric acid (HCl). Each artifact was placed in an HCl bath and gently cleaned with a common tooth brush. For the removal of stubborn metal oxides a dental pick was employed. After cleaning the ceramics were rinsed in a succession of fresh water baths and dried. This attempt at cleaning was only partially successful. Many ceramics were badly burned by the fire that destroyed the ship. This fire left their glazes severely damaged and substantial cleaning was impossible. Other ceramics lay near corroding metal during their time beneath the surface of Lake Champlain. Such corrosion caused permanent discoloration and its removal was only partially successful. Cleaning also revealed the troubling fact that the condition of several of these ceramics was deteriorating. In some examples the ceramic paste was so porous that it resembled plaster and crumbled easily. Fortunately these materials were recorded before they deteriorated further.

Labeling

At some point after removal from the site and before shipment to Texas (a period of several years) some of the artifacts had been directly labeled with location codes. This effort was obviously not well organized and not consistently applied to all artifacts. Shaulis did not mention directly labelling the artifacts during her cataloging procedure and hers was certainly the most substantial artifact documentation effort to date. Instead, she relied on Mylar tags placed in each of the artifact bags. This
indirect labelling was not suitable for this study. Clearly each of the ceramics needed to be permanently and separately identified so that sherd comparison and possible vessel reconstruction could be completed with a reasonable degree of ease. Therefore, each ceramic sherd was labelled with its individual catalog sheet code. This method of individual labelling is commonplace and allows the researcher to manipulate the artifacts without fear of misidentification.

Each sherd was examined to find the best possible location for labeling. The application of labels required a relatively clean, smooth surface. Basic cataloging convention requires that labels be unobtrusive and easily legible. Once a suitable location was found (an impossibility with some of the small, badly damaged sherds), a layer of common, clear nail polish was applied to the ceramic surface with a small brush. This coating was allowed to air dry. Once dry the catalog code was hand lettered using black India ink and a pen equipped with a fine nib. Ceramics with dark surfaces were labelled using permanent white ink instead of black India ink. The freshly lettered code was allowed to dry and then a final coat of clear nail polish was applied for protection. With that application in place the labelling process was complete. Mylar tags and plastic bags were no longer needed for identification.
Ceramic Reconstruction

Individual identification of the ceramic sherds allowed for reexamination of the collection without fear of misidentification. Now it was possible to locate sherds (which may have been scattered across the wreck) belonging to individual ceramic vessels and to reconstruct those vessels if possible. Sherds were sorted and examined for similarities in paste type (stoneware, pearlware, etc.) paste color, paste consistency, surface decoration, and overall form. After lengthy examination and resorting it was found that partial reconstruction was possible for only a handful of items. Reconstruction was completed using a glue commercially known as Duco. Though modest, these reconstructions did provide useful information and will be discussed in more detail in later sections of this study.

Drawing

Resorting of the ceramic collection and the resulting partial reconstructions revealed the need to produce detailed drawings of diagnostic examples of each of the broad ceramic types found in the collection (stoneware, coarse earthenware, refined earthenware). The bulk of the ceramics recovered from the Phoenix were small body sherds which gave only basic information about the types of ceramics used on board. Detailed drawings of these sherds were of no value to this study. Therefore, diagnostic examples of stoneware, coarse earthenware, and
refined earthenware were chosen for drawing. For the purposes of this study diagnostic artifacts were those which offered special insight into the assemblage of ceramics recovered from the site. Examples included ceramics with identifiable decorative motifs and reconstructions which allowed for vessel type identification.

Study of the collection also revealed that each broad type of ceramic was heavily represented by a narrow range of body forms. For example, the refined earthenware was heavily weighted with the remains of teawares and shell-edged dinner and serving plates. Stoneware was heavily represented by the remains of storage bottles and the coarse earthenware collection included the remains of several storage crocks. Examples of these forms were chosen for detailed drawings to be included in this report. Detailed drawings of diagnostic artifacts were completed in full scale. Two views of each item were used for an appropriate level of documentation. Once the drawings were complete a final review of the collection was undertaken, particularly of those sherds not included in the group chosen for detailed drawings. Each sherd was carefully examined to confirm either that its exact ceramic form could not be identified or that it was represented by one of the diagnostic artifacts. With these basic collection tasks completed, the diagnostic artifacts could be studied carefully and a better understanding of the collection reached.
FIGURE 5. Shaulis artifact totals.
FIGURE 6. Chase artifact totals.
and metal; no wood was available for study. The initial review of the A&M Collection showed that most of the artifacts were ceramic. Metal objects were limited to a small range of items, including: a chain, nails, tacks, other fasteners, and a lock (see Figure 7). Comparison of these metal objects with the Shaulis catalog showed that the A&M Collection was incomplete. According to the individual information sheets prepared by Shaulis, 2 keys, 5 buttons of various sizes, 1 metal spindle, and 5 fused metal discs (possibly coins) were among the artifacts recovered from the wreck. They were not part of the A&M Collection and their present location is not known. Shaulis' record of these objects is, therefore, even more valuable. The array of fasteners and other metal items could be helpful in studying the construction of the ship (not an area of expertise for this researcher), but offer marginal insight into life aboard the ship.

Also included in the A&M Collection was an array of glass sherds. The vast majority of these sherds were small and unidentifiable. Many melted in the severe heat of the burning ship timbers and became shapeless lumps of blue-green glass. Several larger fragments were clearly wine bottle bases (see Figure 8). Their diameters were consistently in the four-inch range and they had deep concave indentations. Hight (1985:3) reported that the bottle bases resembled English wine bottles. One glass bottle top (see Figure 8), with a twisted wire wrapped around its lip, was also recovered.
FIGURE 8. Artifacts: G11 and G4-A; glass bottle base and glass bottle top (both incomplete).
The research for this thesis has focused on the ceramics for several reasons. Ceramics have long been considered one of the most valuable tools for reconstructing past lifeways. They are durable. Their technological and stylistic developments are often well established (especially for the period involved in this study) and the *Phoenix* material is tightly dated. Ceramics are often good indicators of the social and economic status of their users. Ceramic types (stoneware, earthenware, porcelain, and refined earthenware) in use when the *Phoenix* sailed can be indicative of food preparation tasks, as well as food consumption and social patterns aboard the vessel. Last of all, extensive studies have been made of ceramics from land contexts. Comparisons between contemporary land ceramic use and the *Phoenix* material can be done with relative ease.

Such comparisons give us a better understanding of life aboard the ship and will help answer several specific questions. How was the atmosphere aboard early steam-driven vessels different from, or similar to, more traditional land travel environments? How was life on this ship different from, or similar to, life on land? And was the *Phoenix* a lavish vessel outfitted with the very latest and most fashionable table appointments, or were conditions more spartan in nature? The ceramics will help illustrate life aboard the ship by answering these questions.
REFINED EARTHENWARE

Background

The refined earthenware from the Phoenix, like that found on most early 19th century American archaeological sites, is predominantly of English manufacture (Price 1979:9). The term refined earthenware generally refers to ceramics made from clays composed of a moderate proportion of silica. These clays tend to be tightly grained and light in color, but do not contain the high proportion of silicates found in porcelain. Additionally, unlike porcelain, refined earthenware is only fired to a state of partial vitrification (Hamilton, ed. 1990:25-26; Ceramic Trade Directory Records 1947:351-352). During the first quarter of the 19th century three basic types of refined English earthenware were in common use: creamware, pearlware, and whiteware.

Creamware, a ceramic perfected by Josiah Wedgwood in the early 1760s, is commonly identified by examining the overall “cast” of the ware’s clear lead glaze that should be “yellow-green” in appearance. This coloration is especially noticeable in crevices, bases, foot rings, or other areas where glaze pools (Price 1979:10; Towner 1978:21). Additionally, the paste of the vessel should be a cream color. By the turn of the 19th century creamware had declined in popularity and thus, not surprisingly, is found rarely in the Phoenix collection.
Pearlware, a white paste ware whose clear lead glaze exhibits a bluish cast was at the height of its popularity during the career of the *Phoenix* and predominates in the artifact collection under examination. Pearlware began its development in the early 1770s at the Wedgwood factory. By 1779 Wedgwood had coined the term “Pearl White” to describe these ceramics (Hume 1982:128). Pearlware’s paste contained a greater percentage of flint and white clay, and the glaze contained a small quantity of cobalt oxide (Savage and Newman 1985:216; Buten 1964:12). This combination negated the yellowish cast exhibited in creamware, making pearlware a much whiter ceramic.

By circa 1810 pearlware manufactured in England was the common tableware in the United States, though creamware still occasionally appeared on American tables. Pearlware use began a rapid decline in the 1820s and by 1830 it was virtually eclipsed by whiteware. Limited pearlware production continued, however, well into the century (Hume 1982:130). Price (1979:11) maintains that both pearlware and whiteware share the same white paste, but differ slightly in glaze makeup, a difference that she feels is not clear on a consistent basis. Regardless, in almost textbook fashion, the ceramic artifact assemblage of the *Phoenix* contains both pearlware and whiteware examples.
All three types of ceramics were produced in a variety of forms and
decorated using several methods. Undecorated ceramic tableware,
especially pearlware, was uncommon until the latter part of the 19th
century when undecorated whiteware had a brief period of popularity
(Price 1979:22). One of the most widely used forms of decoration was
accomplished using the transfer-print process. This process generated two
types of basic designs: (1) a line-engraving often filled with complex
shading and detail, and (2) outlines intended for hand enamel coloring
(Savage and Newman 1985:296). The first type of transfer-printing
dominates the collection of pearlware recovered from the *Phoenix*.

The transfer-print process allowed the ceramic manufacturer to mass
produce intricately decorated vessels at a reasonable price. Transfer-
printing is believed to have been invented by John Brooks, an Irish
engraver, around 1753 while he was employed with the Battersea Enamel
Works (Savage and Newman 1985:296). Examples of red and purple
designs on white saltglaze plates are believed to have also been produced
that same year by Messrs. Janssen, Delamain, and Brooks at York House,
Battersea. Mass production of transfer-print designs (at first executed in
the color blue) is generally attributed to Messrs. Sadler and Green of
The Production Process

A fascinating account of the transfer-print process was written in 1827 by a reporter for *The Liverpool Albion* and extensively described both the decoration process and the physical attributes of the Herculaneum ceramic works in Liverpool, England. This account is especially helpful when examining the *Phoenix* artifacts because it is an examination of the British ceramics industry around the time of the *Phoenix*. The ceramic works were described as an extensive grouping of low, irregular buildings occasionally punctuated by a hovel (a conical chimney for glass houses). Three to four hundred men, women, and children toiled there daily. A large dock connected the complex to the nearby river where barges brought raw materials and took away finished product. In the printing rooms the *Albion* reporter was especially impressed by the transfer-print process:

The printing-rooms are the busiest and most crowded in the whole premises. Here are stoves to keep the copper-plates warm, and a number of men who print them off on a kind of silk paper, in the usual manner of engravers. The ink, or printing material for the blue ware, which is, by far the most in request, is a sort of dirty purple colour in its raw state; it is glutinous. The paper is of a nature not to imbibe it. As soon as the centre-piece and border of a plate is printed on one piece of it, little girls clip off the border and the superfluous paper to its edge. A number of women and girls, seated on long benches, lay the centre-pieces carefully on the unglazed plates, and afterwards, place round the borders, with as few wrinkles as possible. The article is then held in the left hand upon a piece of thick leather on the bench, and the paper is rubbed and smoothed stoutly upon it, with an instrument made of flannel, and rolled round with cord till it is as hard as a stick, a portion of the flannel being left loose at the end.
(Figure 9). This is applied to the right shoulder, the plate is turned under the rubber, as the friction smooths on the paper, and, when finished, the paper is scarcely perceptible. The article is afterwards plunged into large tubs of water; the paper comes off 'mache', and the colouring matter remains on. Operations somewhat modified are used with other articles. The prints upon small jugs, in black and other colours, are done by filling the copperplate with a sort of oil. The impress is then taken upon slices of a substance like India rubber, probably a composition of glue. These are wrapped round little jugs, or put upon flat surfaces; after which, the colouring matter is dusted on with a cushion, and adheres to the oil. Many of these prints are remarkably clear and fine. After printing, the ware is put into the oven, to dry out the oil, and the print of the blue becomes, in this stage, of a green colour. Other colours are also changed by the chemical action of the furnace, which renders the printing and painting of the ware a nice and difficult art. When thus prepared for glazing, the articles are dipped into a fine thin composition, like whitewash; in which, ground glass, flint, etc. form ingredients, and this completely conceals the colours. They are then put into the glazing, or finishing ovens, where they are brought to a great heat for some hours; the fires are then withdrawn, they are gradually cooled, and come out the proper colour required, with a beautiful gloss, and, in all respects suitable for the table (Smith 1970:106).

British ceramic manufacturers took every economic advantage of this decorative method. Between 1790 and 1825 the British factories produced not only enormous quantities of transfer-printed ceramics, but also decorated many of these wares with commemorative transfer-prints designed specifically for the American market. This was no new trend in ceramic marketing. British manufacturers had produced inscribed and commemorative designs for domestic and European consumption long before producing designs specifically for the Americans.
The earliest documented American-related design is a creamware baluster jug with a transfer-print depicting the death of General James Wolfe in the French and Indian War. The transfer-print was adapted from a popular painting of the event executed by Benjamin West and began appearing on baluster jugs circa 1780. The transfer-print engraver copied the central portion of the painting, depicting a dying Wolfe surrounded by his loyal men, almost entirely. Transfer-print engravers were not hampered by copyright laws and thus freely "borrowed" images for their work in a manner that would never be tolerated in modern society. Maps, official documents, cartoons, personal drawings, and periodicals (especially the Analectic) were among the many sources these engravers used for producing ceramic transfer-print designs (Nelson 1980:95).

Pictorial images, often portraits, were the most popular design devices used for these commemorative wares. Not surprisingly, portraits of George Washington were the most popular in the American market. These images are especially difficult to date because so many portraits of Washington were produced during this period, especially after his death in 1799. Alexander Campbell's equestrian portrait of Washington entitled, George Washington, Esqr., was widely copied and was long considered the accepted image of Washington by Europeans. By circa 1800 engravings of this work, almost entirely copied from Campbell's original, began
appearing as transfer-prints on ceramic bowls. However, the transfer-print engraver took the liberty of replacing some generic background foliage with a willow and pine. These trees were symbols of Mortality and Immortality associated with images of Washington after his death (Nelson 1980:99).

Washington’s death caused a flurry of commemorative ceramic designs that often appear almost melodramatic to modern tastes. James Akin and William Harrison, Jr. of Philadelphia produced one image that was widely copied on ceramics. This work included a profile of Washington with a willow and pine in the background. One particular ceramic example that used the Akin and Harrison design was a creamware jug produced between 1800 and 1810. The jug also included a title for the image, Washington in Glory/America in Tears (Nelson 1980:101).

Beyond portraiture the transfer-print designers chose a varied group of images to use as ceramic decoration. These included landscapes, nautical themes, and architectural details. Some of the most charming of these designs were produced in dark blue Staffordshire ceramics at the beginning of the 19th century. Essentially these wares differed from other blue transfer-print ceramics only in their use of a deeper shade of blue that covered almost the entire surface. These Staffordshire wares developed their own distinct style that normally consisted of two basic design elements. First, the central portion of the ware was the focus of the design
and generally consisted of a portrait, pastoral scene, or other popular image. Before 1820 Chinese designs were often chosen, after 1820 views from travel books and other sources became popular. The second element, the border, surrounded this central design and usually consisted of an elegant floral or shell motif. Often ceramic manufactures developed a "signature" border design that was characteristic of their product (Halsey 1974:14). These "signature" borders, often inspired by wall paper designs, can be a helpful tool when tracing ceramics that lack manufacturers' marks (especially since the central design elements, as stated earlier, were often copied from entirely unrelated sources).

An entire series of Staffordshire plates, manufactured by E. Wood & Sons, was produced during the 1820s and included many scenes of the Hudson River and New York state. Included in these scenes were two images of steamboats, the first being the Troy Line's Chief Justice Marshall that became the favorite steamer between New York and Albany. The second image, a companion plate, pictured an unnamed Union Line steamboat that closely resembled the Chief Justice Marshall (Halsey 1974:178).

Obviously the transfer-print designer used the same basic image of a side-wheeled steamer and simply substituted the appropriate ship or shipping company name as needed. The steamer served as the central design element and an array of sea shells served as the border for both
plates. An especially interesting portion of the central design was the image of a small boat being drawn toward the steamboat after leaving a group of passengers on the bank of the river. A similar process of disembarkation was described in Basil Hall’s *Travels in North America*.

These embarkations and landings are cleverly executed. When the steam vessel comes within five hundred yards of the dock or wharf, a bell is rung on board to give warning of her approach. A little boat is then lowered into the water with two hands in it, and is towed alongside until nearly abreast of the dock. The men now put off, and from the velocity acquired by the steam vessel easily manage to sheer themselves, as it is termed, to the shore, dragging along with them a small rope from a coil lying on the deck of the steamboat. The newcomers who are waiting on the shore jump into the boat as fast as they can, pitching in before them their trunks and baggage. When all is ready, one of the seamen in the boat makes a signal to the steam vessel, which by this time has probably shot to some distance past the dock. As soon as the signal is seen the end of the rope which is on board is passed around a roller moved by the machinery, and the boat, with her cargo of passengers, is drawn swiftly alongside, and little or no time is lost (1829:92).

Hall later wrote that regulations required the vessels to stop their engines during the process, but the captains rarely heeded such restraints in an effort to stay ahead of competing boats. He complained that most of the boats barely slackened their speed, which caused some discomfort to the small boats’ passengers.
Refined Earthenware Artifacts

A total of 342 sherds compose the ceramic assemblage from the ship’s wreckage. Of that total, 224 (or 65 percent) are refined earthenware. Listed in Table 1 are the refined earthenware vessel forms found in the assemblage and each form’s corresponding sherd total and percentage (of total refined earthenware). Please note that many of the sherds are very small and badly damaged so positive identification is difficult.

Several decoration types are represented in the refined earthenware from the ship. The majority of the plate sherds are of the blue shell-edged variety. Two possible plate bases have blue transfer-print designs. The teawares (tea bowls, saucers, and a teapot) are found decorated with either blue hand-painted designs or blue transfer-print decorations. No examples of commemorative American transfer-prints are in evidence, but the general decorative process described earlier was used to produce the wares recovered from the wreck. The chamber pot sherds are undecorated.

These vessels are made from the three types of refined earthenware described earlier (creamware, pearlware, and whiteware). Sixty-seven percent of the vessels are pearlware (see Table 2). The remaining 26 percent is divided between creamware and whiteware. A small amount, seven percent, is difficult to positively categorize. It should be noted that whiteware is difficult, if not impossible, to distinguish from pearlware.
### TABLE 1
REFINED EARTHENWARE VESSEL FORMS AND TOTALS

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>Sherd Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plates</td>
<td>79</td>
<td>36</td>
</tr>
<tr>
<td>Tea Bowls</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Saucers</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Teapot</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Bowls</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Chamber Pot</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Unidentified</td>
<td>77</td>
<td>35</td>
</tr>
<tr>
<td>Type</td>
<td>Sherd Total</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>Pearlware</td>
<td>150</td>
<td>67</td>
</tr>
<tr>
<td>Creamware</td>
<td>27</td>
<td>12</td>
</tr>
<tr>
<td>Whiteware</td>
<td>32</td>
<td>14</td>
</tr>
<tr>
<td>Unidentified white-paste</td>
<td>15</td>
<td>7</td>
</tr>
</tbody>
</table>
The poor condition of many of the sherds also makes positive identification impossible. Therefore, it is entirely possible that some whiteware is misidentified as pearlware. By the time the Phoenix made its last voyage, English ceramic manufacturers were producing a significant amount and variety of whiteware which makes the rather small percentage of this ceramic type in the assemblage rather surprising.

**Diagnostic Artifacts: Refined Earthenware**

The following catalog includes descriptions of diagnostic refined earthenware recovered from the Phoenix. This selection was chosen to illustrate the range of vessel forms and decoration found in the ship’s wreckage. The terminology utilized for teawares, including terms for vessel parts, is based on terminology used in Charleston and Towner’s (1977) catalogue of English ceramics.

**ITEM 1** • Plate base (incomplete). See Figure 10 for illustration.

- **Number of fragments included:** two (2)
- **Field Number(s):** C78-A and C78-B
- **Field Location:** C78-A and C78-B = 35S
- **Material:** Pearlware
- **Decoration Type:** Blue transfer-print
- **Condition:** Good - slight discoloration and blistering.

**Fragment Descriptions:**
- C78-A • 2 1/2 X 2 3/4 in. (irregular); 3/16 in. thick
- C78-B • 3 7/8 X 2 in. (irregular); 3/16 in. thick

**Item Description:**
Incomplete plate base formed by adjoining fragments C78-A and C78-B. Diameter of base foot ring is 4 in. Underside glaze is
FIGURE 10. Item 1; artifacts: C78-A and C78-B; blue transfer-print plate base (incomplete).
blistered and discolored. Topside of item is decorated with blue transfer-print winter landscape design as follows:
Foreground: snow covered, leafless tree and lake which extends through midground.
Midground: lake and shoreline; a dog sled is located near shoreline.
Background: hills and outline of forest.

ITEM 2 • Teapot (incomplete). See Figure 11 for illustration.

Number of fragments included: three (3)
Field Number(s): C109-A, C109-B, and C75
Field Location: C109-A and C109-B = 12S
C75 = 38P

Material: Pearlware
Decoration Type: Blue transfer-print
Condition: Fair - discoloration and blistering of interior glaze (all fragments). Exterior glaze is in fair condition (all fragments).

Fragment Descriptions:
C109-A • 3 1/2 X 4 1/2 in. (irregular); 3/16 in. thick
C109-B • 3 1/4 X 4 3/4" in. (irregular); 3/16 in. thick
C75 • 2 1/2 X 11/2 in. (irregular); 5/16 in. thick

Item Description:
Incomplete teapot formed by adjoining fragments C109-A and C109-B. These two fragments include the entire handle, portions of the body, portions of the mouth, and portions of the base. C75 is a nonadjoining body fragment which includes a portion of the pierced opening between the body and the spout (not illustrated). Diameter of base foot rim is 4 in. Diameter of mouth is 4 in. Exterior of C109-A and C109-B are decorated with blue transfer-print shell design (see description below). C75 is not decorated.
Mouth rim: Top band of adjoining circles followed by a wider band of decoration including a shell (possibly a clam shell) and other motifs which are badly blurred (possibly branches and other organic designs).
Handle: Badly blurred decoration.
FIGURE 11. Item 2; artifacts: C109-A and C109-B; blue transfer-print teapot (incomplete).
ITEM 3 • Shell-edged dessert or cheese plate (incomplete). See Figure 12 for illustration.

Number of fragments included: four (4)
Field Number(s): C11-B, C11-D, C58-D, and C59-B
Field Location: C11-B and C11-D = 10P
C59-B = 10P
C58-D = 10P

Material: Pearlware (possibly creamware)
Decoration Type: Shell-edged
Condition: Poor - discoloration and blistering of interior and exterior glaze (all fragments).

Fragment Descriptions:
C11-B • 1 1/2 X 1 1/8 in. (irregular); 1/8 in. thick
C11-D • 1 1/2 X 1 1/16 in. (irregular); 1/8 in. thick
C58-D • 2 1/8 X 2 in. (irregular); 1/8 in. thick
C59-B • 1 7/8 X 1 1/2 in. (irregular); 1/8 in. thick

Item Description:
Fragments C11-B, C11-D, C58-D and C59-B are adjoining parts of a small shell-edged plate which include portions of the rim, body, and base. Diameter of plate is 5 1/2 in. Plate could possibly have been used for individual servings of cheese or dessert. All fragments are badly discolored with iron staining. Glaze is in poor condition. Thus, an accurate description of color or decoration (none is presently apparent) is impossible.

ITEM 4 • Shell-edged plate (incomplete). See Figure 13 for illustration.

Number of fragments included: one (1)
Field Number(s): C69-A
Field Location: 35S
Material: Pearlware
Decoration Type: Blue shell-edged
Condition: Poor - iron discoloration, glaze blistered.

Fragment Descriptions:
C69-A • 4 X 1 3/4 in. (irregular); 1/8 in. thick
FIGURE 12. Item 3; artifacts: C11-B, C11-D, C58-D, and C59-B; shell-edged dessert or cheese plate (incomplete).
FIGURE 13. Item 4; artifact: C69-A; shell-edged dinner plate fragment.
Item Description:
Fragment of a shell-edged dinner plate including a portion of the rim and a very small portion of the body. Rim diameter of 9 1/2 in. Typical shell-edged design with a blue band applied to the scalloped, incised portion of the rim.

**ITEM 5** • Tea bowl (incomplete). See Figure 14 for illustration.

Number of fragments included: one (1)
Field Number(s): C8-A
Field Location: 35S
Material: Pearlware
Decoration Type: Blue transfer-print
Condition: Fair - slight discoloration

Fragment Descriptions:
C8-A • 2 1/2 X 1 1/2 in. (irregular); 1/16-1/8 in. thick

Item Description:
Fragment of a tea bowl which includes a portion of the base and body. Diameter of base foot rim is 2 in. Exterior of bowl is decorated with an acorn, oak leaf, and floral motif. Interior is decorated with an interlocking "Greek Key" geometric band near top of bowl (fragment does not include rim).

**ITEM 6** • Saucer (incomplete). See Figure 15 for illustration.

Number of fragments included: one (1)
Field Number(s): C6-A
Field Location: 35S
Material: Pearlware
Decoration Type: Blue transfer-print
Condition: Fair - slight discoloration

Fragment Descriptions:
C6-A • 2 3/4 X 1 7/8 in. (irregular); 1/8 in. thick

Item Description:
Fragment of saucer which includes portions of the base, body, and rim. Saucer is a complimentary piece to Item 5. Diameter of base foot rim is 3 9/16 in., while the overall diameter is 5 1/2 in. Exterior
FIGURE 14. Item 5; artifact: C8-A; blue transfer-print teabowl fragment.
FIGURE 15. Item 6; artifact: C6-A; blue transfer-print saucer fragment.
of saucer is undecorated (white). Interior is decorated with a band of "egg and darts" near rim followed by a band of an interlocking "Greek Key" motif. Remainder of body is decorated with the acorn, oak leaf, and floral motif.

ITEM 7 • Tea bowl (incomplete). See Figure 16 for illustration.

Number of fragments included: one (1)
Field Number(s): C106-B
Field Location: 11P
Material: Pearlware
Decoration Type: Hand-painted blue
Condition: Poor - iron discoloration and glaze blistering.

Fragment Descriptions:
C106-B • 2 1/2 X 1 1/2 in. (irregular); 3/16 in. thick

Item Description:
Fragment of a tea bowl which includes portions of the body, and rim. Diameter of rim is 3 1/2 in. Exterior of bowl is undecorated (white). Interior is decorated with a pair of simple, hand-painted blue lines. Periodically a design resembling a single feather or leaf punctuates the bottom line.

ITEM 8 • Saucer (incomplete). See Figure 17 for illustration.

Number of fragments included: one (1)
Field Number(s): C87-A
Field Location: 15-16P
Material: Pearlware
Decoration Type: Hand-painted blue
Condition: Poor - iron discoloration.

Fragment Descriptions:
C87-A • 3 X 2 3/4 in. (irregular); 2/16 in. thick

Item Description:
Fragment of a saucer which includes portions of the body, base, and rim. Diameter of base foot rim is 3 1/2 in. Rim diameter is 5 in. Exterior of saucer is undecorated (white). Interior is decorated with
FIGURE 16. Item 7; artifact: C106-B; blue painted teabowl fragment.
FIGURE 17. Item 8; artifact: C87-A; blue painted saucer fragment.
a pair of simple, hand-painted blue lines. A design resembling a single feather punctuates the bottom line (this is the same design as Item 7).

**ITEM 9** • Saucer (incomplete). See Figure 18 for illustration.

- **Number of fragments included:** four (4)
- **Field Number(s):** C9-A, C96, C87-B, and C10-A
- **Field Location:** C9-A and C96 = 8P
  - C10-A = 10P
  - C87-B = 15-16P
- **Material:** Pearlware
- **Decoration Type:** Hand-painted blue
- **Condition:** Poor - iron discoloration (all fragments).

**Fragment Descriptions:**
- C9-A • 1 7/8 X 1 1/4 in. (irregular); 1/10 in. thick
- C96 • 2 15/16 X 1 1/4 in. (irregular); 1/8 in. thick
- C10-A • 1 7/8 X 1 1/4 in. (irregular); 1/8 in. thick
- C87-B • 2 1/4 X 1 3/8 in. (irregular); 1/8 in. thick

**Item Description:**
C96, C10-A, and C87-B are adjoining fragments of a saucer which includes portions of the body, base, and rim. C9-A is a fragment from the same bowl. Diameter of base foot rim is 3 1/2 in. Rim diameter is 5 in. Exterior of bowl is undecorated (white). Interior is decorated over entire interior surface with a hand-painted, stylized leaf and berry motif.

**ITEM 10** • Chamber Pot Rim (incomplete). See Figure 19 for illustration.

- **Number of fragments included:** three (3)
- **Field Number(s):** C61-A, C61-B, and C61-C
- **Field Location:** Unknown
- **Material:** Creamware
- **Decoration Type:** Undecorated
- **Condition:** Poor - glaze blistered
FIGURE 18. Item 9; artifacts: C96, C9-B, C87-B, and C10-A; blue painted saucer (incomplete).
FIGURE 19. Item 10; artifacts: C61-A, C61-B, and C61-C; chamber pot rim (incomplete).
Fragment Descriptions:
C38-A • 1/2 X 3/4 in. (irregular); 1/4 in. thick
C38-B • 1 X 1 in. (irregular); 1/4 in. thick
C38-C • 1/4 X 1/2 in. (irregular); 1/4 in. thick

Item Description:
Three rim fragments of an undecorated chamber pot. Rim diameter is 10 1/2 in.

ITEM 11: Bowl Rim (incomplete). See Figure 20 for illustration.

Number of fragments included: two (2)
Field Number(s): C24-A and C24-B
Field Location: 36P
Material: Whiteware
Decoration Type: Unidentified white-paste
Condition: Poor - glaze blistered

Fragment Descriptions:
C24-A • 6 X 3 in. (irregular); 3/16 in. thick
C24-B • 4 1/2 X 2 1/2 in. (irregular); 3/16 in. thick

Item Description:
Two large rim fragments, possibly from the same large bowl. A heavy coating of rust makes it impossible to identify decoration, but it appears that the vessel has a blue surface with white decoration. Rim diameter is 8 1/2 in.
FIGURE 20. Item 11; artifacts: C24-A and C24-B; bowl rim (incomplete).
COARSE EARTHENWARE

Background

By 1815, the year the Phoenix began passenger service, British ceramic manufacturers had many years of experience in the mass production of reasonably priced refined earthenwares for service on American tables. However, food preparation, food storage, and other common kitchen tasks called for even less expensive coarse earthenwares. These wares were often produced in America of local clays and rarely included makers' marks or other distinguishing features. This circumstance makes it extremely difficult to identify the manufacturer of a specific vessel.

As one might expect the coarse earthenware recovered from the Phoenix is typical of 19th century sites of this region. The sherds are obviously the remains of simple vessels used in everyday shipboard tasks (primarily food preparation and storage). The color of these wares ranges from a pinkish buff to red, red-brown, and brown. Their exteriors are sometimes glazed, but often not. Glazed interiors are found more often. Frequently the vessels are undecorated. Examples of crude, incised decoration are occasionally found. Most of the sherds show evidence of fire damage. Surfaces are charred and glazes are difficult to distinguish.

American potters produced such wares to meet a demand for varied and inexpensive utilitarian vessels. These wares did not necessarily require the same sophistication in design or manufacturing processes
utilized by the British in their mass production of refined earthenware and porcelain, but local potters did not lack creativity or energy. They produced prodigious quantities of ceramics in a massive scope of forms and sizes. Examples of unglazed ware include: flowerpots, water-coolers, chimney pots, stove-pipe collars, drain pipes, roofing tiles, and tobacco pipes. Examples of coarse ware with exterior glaze only include: flowerpots, hanging flower baskets, sand shakers, and stove rests. Interior glazed examples include: applebutter crocks, milk cups, milk pans, mixing bowls, baking pots, butter crocks, cake molds, jelly molds, cheese-pots, pie plates, platters, and bottles. Potters also produced wares with both interior and exterior glazed surfaces. Examples of these wares include: crocks of all sizes, jars, jugs, pitchers, basins, mixing bowls, various molds, custard cups, shaving cups, churns, bottles, and baking dishes (Ramsey 1947:128).

The Production Process

Potters began fashioning coarse earthenware vessels by wedging (kneading to insure uniform moisture and to eliminate air pockets) a supply of clay appropriate for the task size. Once wedged, the clay was formed into balls and formation of the vessel began. A variety of methods were employed to construct the vessels. Hollow-ware, such as jugs, bowls, and flower pots, was made using a potter’s wheel (Figure 21). A clay ball was placed on the center of the wheelhead and the wheel was started by kicking the surface of the flywheel with one’s foot. This motion was
1. Flywheel - provides smooth wheel momentum
2. Kickbar - hanging metal bar pushed back and forth with foot.
3. Crank - translates motion of kick bar into rotary motion of the shaft.
4. Wheelhead
5. Seat
6. Loose board - place for just finished ware.

continued to keep the wheelhead turning at a consistent speed. Water was applied to the clay so the potter’s hands would not stick while the vessel was formed. The combination of the wheel’s speed and the potter’s hands provided the forces necessary to create the basic vessel form. Potters used ribs, or smoothers, to finish the vessel. These tools were often made of wood. Many different shapes and sizes were created for specific finishing needs (See Figure 22). Curved ribs helped form the walls of bowls or pots, while straight ones insured the “trueness” of storage crock walls. Once the vessel was formed, a sponge gave the surface a final polish and a wire was pulled under the base to cut the vessel from the wheelhead (Powell 1972:7).

Molds were used to produce wares such as platters and pie plates. The potter would slap a clay ball with a batter (or pounder) until it was flat. Then a rolling pin was used to make the clay into a thin sheet of even thickness (much like a pie crust). Several of these clay sheets (called bats) were made at once and set aside to firm (Figure 23). Once firm, a bat was selected and slapped on the mold. Molds were made using a variety of materials - wood, clay, and plaster. The potter’s hands provided the final shaping and a sponge was wiped over the surface for a polishing effect. Interestingly, potters often collected and sifted highway dust for use in the molding process. The dust was utilized much like flour is used in the preparation pie crusts (Powell 1972:8-9).
FIGURE 23. The batting process (source: Powell 1972:8).
Glazes employed in the manufacture of these wares were basic, commonly a mixture of lead and silica (this combination was developed in the Near East about 1,000 B.C.). Potters in America commonly manufactured glaze by using galena or crude lead ore. Clay and water were then mixed with the lead in a quern (see Figure 24). Once the mixing was complete the glaze was applied to the partially dried (green-ware) vessel. Pitchers and other vessels (which needed to be watertight) had their inside surfaces glazed (at a minimum). A small amount of glaze was simply poured into the green-ware and the vessel was rotated until coverage was complete. The remaining glaze was spilled out. If both inside and outside surfaces were glazed, the vessel was held at its foot and dipped into the glaze (Powell 1972:8).

Coarse earthenware was usually not decorated. Sometimes quick and easy techniques, such as crimping or incising, were used to give the vessel some embellishment. Elaborate decorative techniques were occasionally developed for use with coarse earthenware, but were not commonly employed. For example, sgraffito is a decorative technique traditionally associated with coarse earthenware. Slip (clay diluted with water until a creamy consistency is formed) is brushed on the vessel surface. The design is then scratched through the slip exposing the clay body. Colored slips are sometimes used and applied to the vessel surface by a process called trailing (Powell 1972:12-13). Sgraffitoed vessels are more commonly
1. Top hole - glaze materials are poured down hole.
2. Iron bar - rotates the top stone.
3. Top stone - rotates crushing the glaze materials.

associated with North American archaeological sites of the 17th and early 18th centuries. Even then these vessels were normally intended for special commemorative or decorative uses. They were rarely used for common tasks. By the time the Phoenix was in service, the mass produced and more elaborately decorated refined earthenware produced in England had taken over dining tables in the United States and coarse earthenware was relegated to an entirely utilitarian role.

Once coarse earthenware vessels were formed, decorated, and glazed, the wares were transferred to a kiln for firing. Many types of kilns have been developed over time. One type prevalent on the eastern coast of the United States during the 18th and 19th centuries was the updraft beehive kiln. The Jessiah Diehl kiln near Richland, Pennsylvania (Figure 25) is a typical example (though somewhat larger than most). The beehive shape was formed by corbeling simple field stone and lining the interior with firebrick. The total structure stood approximately seven feet high at center. Expansion of the structure during firing was restrained by two rows of iron bands. Wares were stacked in the kiln (see Figure 26) and a wood fire was started in the base of the structure. Firing took two or three days, followed by a cooling process that took approximately one week. The finished ceramics were removed after cooling (Powell 1972:15-17).

1. Fireplace or fire box
2. Heat circulating flu
3. Floor for stacking ceramics
4. Floor support
5. Opening for heat to interior
6. Chimney hole
7. Main door
8. Iron lintel supports
9. Opening for top stacking
10. Extraction port - trials
11. Iron reinforcing bands
Coarse Earthenware Artifacts

Thirty-three coarse earthenware sherds, or 10 percent of the total ceramic assemblage, were recovered from the remains of the ship. They fall into two categories. Either they exhibit size and style characteristics of wide-mouthed storage vessels (like crocks) or they are small body sherds that cannot be positively identified. See Table 3 for specific sherd numbers and corresponding percentages (percent of total coarse earthenware). The paste colors range from deep red to grey-red, with fire damage often making it difficult to accurately determine color.

Diagnostic Artifacts: Coarse Earthenware

The following is a selection of coarse earthenware examples chosen to illustrate the range found in the collection:

ITEM 1• Storage crock (fragment). See Figure 27 for illustration.

Number of fragments included: one (1)
Field Number(s): C88
Material: Red clay coarse earthenware
Decoration Type: Incised lines
Condition: Good

Fragment Descriptions:
C88 • 6 1/2 X 3 1/2 in. (irregular); 3/8 in. thick

Item Description:
Fragment of a typical earthenware storage crock including part of the rim and body. Crock was straight sided with a 7 in. diameter mouth. Interior was lead glazed (clear). One incised line decorates the exterior near rim.
TABLE 3
COARSE EARTHENWARE VESSEL FORMS AND TOTALS

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>Sherd Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crocks</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Unidentified</td>
<td>23</td>
<td>70</td>
</tr>
</tbody>
</table>
FIGURE 27. Item 1; artifact: C88; incised crock rim fragment.
ITEM 2. Unidentified red coarse earthenware. See Figure 28 for illustration.

Number of fragments included: five (5)
Field Number(s): C84-A, C84-B, C84-C, C84-D, and C84-E
Field Location: 8P
Material: Red clay coarse earthenware
Decoration Type: None
Condition: Fair - Interior surfaces could have been glazed, but fire blistering prevents an accurate opinion.

Fragment Descriptions:
C84-A • 4 1/8 X 2 1/4 in. (irregular); 1/2 in. thick
C84-B • 3 3/8 X 1 1/4 in. (irregular); 1/2 in. thick
C84-C • 2 3/4 X 1 1/8 in. (irregular); 1/2 in. thick
C84-D • 1 3/4 X 1 in. (irregular); 1/2 in. thick
C84-E • 1 1/8 X 15/16 in. (irregular); 9/16 in. thick

Item Description:
C84-A, B, C, and D are all unidentified. They could all possibly be fragments of the base of an earthenware crock, thick-bodied and possibly glazed on the interior with a dark blue glaze. C84-E is also unidentified. It could possibly be a small rim fragment of a crock.
FIGURE 28. Item 2; artifacts: C84-A, C84-B, C84-C, C84-D, and C84-E; unidentified sherds.
STONEWARE

Background

The third type of ceramic recovered from the Phoenix is stoneware. Stoneware is made of clay and fusible stone fired at high heat to a point of partial vitrification (Savage and Newman 1985:275). Unlike porous coarse earthenwares, partially vitrified stoneware vessels are impervious to liquids without the need of glaze, though various glazes were sometimes used for decorative purposes. One of the most popular types of is salt-glaze, produced by throwing common salt into a kiln when the firing temperature reaches 1,000°C. The immense heat causes the salt to decompose into chlorine gas and sodium. The gas is released to the atmosphere via the kiln chimney, while the sodium combines with silicates in the vessel body to form a pitted, glass-like glaze (Savage and Newman 1985:253).

During much of the 17th century, stoneware, especially the salt-glazed variety, was produced mostly in the Cologne area of Germany. By 1671 however, potter John Dwight was producing a mottled brown version in Fulham, England. At first he copied the popular “Bellarmine” bottles produced in Germany at the time, but later he expanded his range to include drinking mugs in a variety of sizes. Stoneware is an ideal material for such vessels because it is both impervious to liquids and inexpensive to produce. Dwight’s success caused Fulham to become the center of
British stoneware production during the 18th century and a thriving market in tankards and other common tavern ware developed (Hume 1982:112-114).

By 1720, an entirely white stoneware was developed in England and many manufacturers were also producing vessels of gray stoneware coated with white salt-glazed slip. By the mid-18th century these various types of white stoneware had flooded the ceramic market with items ranging from tavern ware to table and teawares, many with elaborate relief decorations. These wares were attractive and very durable, but relatively expensive due to the high skill level required for production. Such attributes combined to herald the beginning of England’s domination of the world ceramic market. England’s domination lasted well into the 19th century and was strengthened with the development of more cheaply produced, yet hard-fired, creamware, pearlware, and whiteware (Hume 1982:115).

Stoneware, though mass produced by the British, was sometimes produced regionally and several locations along the east coast of the United States were especially well known for their stoneware products. As early as 1684, stoneware was produced in Burlington, New Jersey. Burlington was known for its fine stoneware clays that were dense, light in color, and high in silicate content. By 1735, stoneware was also being manufactured in New York. These and other American cities (particularly in the Northeast), fabricated a wide range of stoneware. Examples include:
jars or crocks (from one to thirty gallons), fruit jars, water coolers, churns, pitchers, beer bottles, cups, ink wells, and drainpipes (Ramsey 1947:138-140).

**Stoneware Artifacts**

Out of the 342 ceramic artifacts recovered from the *Phoenix*, 85 sherds are stoneware (25 percent). Generally, these sherds exhibit style and size characteristics common in food storage and preparation vessels. The one significant variation from this theme is a stoneware inkwell. See Table 4 for specific sherd totals and corresponding percentages (percent of total stoneware). The vessels are mostly undecorated, though incised decorations are occasionally found.

**Diagnostic Artifacts: Stoneware**

A selection of typical stoneware artifacts (including the inkwell) from the collection is presented in the following itemized list.

**ITEM 1** • Unidentified stoneware fragment. See Figure 29 for illustration.

- **Number of fragments included:** one (1)
- **Field Number(s):** C107-B
- **Field Location:** 11P
- **Material:** Unglazed stoneware
- **Decoration Type:** Incised
- **Condition:** Fair - some iron discoloration

**Fragment Descriptions:**
C107-B • 3 1/2 X 2 1/8 in. (irregular); 1/2 in. thick
### TABLE 4
STONEWARE VESSEL FORMS AND TOTALS

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>Sherd Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottles</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Jugs</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Crockes</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Inkwell</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Unidentified</td>
<td>50</td>
<td>59</td>
</tr>
</tbody>
</table>
FIGURE 29. Item 1; artifact: C107-B; unidentified incised sherd.
Item Description:
107-B is a body sherd of a stoneware vessel with a crudely incised floral decoration.

**ITEM 2** • Stoneware bottle fragment. See Figure 30 for illustration.

- Number of fragments included: one (1)
- Field Number(s): C85-A
- Field Location: 8P
- Material: Unglazed stoneware
- Decoration Type: Incised (C107-B)
- Condition: Fair - slight iron discoloration

Fragment Descriptions:
C85-A • 2 3/8 X 1 1/2 in. (irregular); 3/16 in. thick; 1 1/4 in mouth diameter

Item Description:
Fragment of the mouth of a small stoneware bottle or jug.

**ITEM 3** • Stoneware bottle fragment. See Figure 31 for illustration.

- Number of fragments included: one (1)
- Field Number(s): C56-A
- Field Location: 10P
- Material: Unglazed stoneware
- Decoration Type: None
- Condition: Fair - iron discoloration

Fragment Descriptions:
C56-A • 2 5/8 X 1 1/2 in. (irregular); 3/16 in. thick; 3 in. base diameter

Item Description:
Fragment of the base and side of a small stoneware bottle or jug.

**ITEM 4** • Large stoneware jug (incomplete). See Figure 32 for illustration.

- Number of fragments included: two (2)
- Field Number(s): C89 and C43
FIGURE 30. Item 2; artifact: C85-A; bottle top fragment.
FIGURE 31. Item 3; artifact: C56-A; bottle base fragment.
FIGURE 32. Item 4; artifacts: C89 and C43; large jug rim (incomplete).
Field Location: C89 = 12P  
C43 = 11P  
Material: Unglazed stoneware  
Decoration Type: None  
Condition: Good  

Fragment Descriptions:  
C89 • 2 2/4 X 2 1/2 in. (irregular); 5/8 in. thick; 6 in. mouth diameter  
C43 • 3 X 3 3/4 in. (irregular); 5/8 in. thick; 6 in. mouth diameter  

Item Description:  
C89 is a portion of the rim of a large stoneware crock. A portion of the handle is attached. C43 is an adjoining rim fragment to C89.

ITEM 5 • Small stoneware crock (incomplete). See Figure 33 for illustration.

Number of fragments included: three (3)  
Field Number(s): C95-A, C95-B, and C95-C  
Field Location: 37P  
Material: Unglazed stoneware  
Decoration Type: None  
Condition: Fair - slight iron discoloration  

Fragment Descriptions:  
C95-A • 2 1/16 X 1 5/16 in. (irregular); 6/16 in. thick  
C95-B • 2 X 1 1/4 in. (irregular); 6/16 in. thick  
C95-C • 2 X 15/16 in. (irregular); 6/16 in. thick  

Item Description:  
All three sherds join to form a portion of the side and handle of a stoneware vessel. The handle is a flattened “flap” type. The vessel has an approximate interior diameter of 5 1/2 in. An exact diameter was difficult to determine.

ITEM 6 • Stoneware inkwell with quill holder (incomplete). See Figure 34 for illustration.

Number of fragments included: two (2)  
Field Number(s): C52 and C99-A
FIGURE 33. Item 5; artifacts: C95-A, C95-B, and C95-C; small crock rim (incomplete).
FIGURE 34. Item 6; artifacts: C52 and C99-A; inkwell with quill holder (incomplete).
Field Location:  
- C52 = none
- C99-A = 10S

Material:  
- Unglazed stoneware

Decoration Type:  
- None

Condition:  
- Fair - pitted and chipped

Fragment Descriptions:
- C52 • 1 7/8 X 1 3/8 in. (irregular); 3/16 in. body thickness
- C99-A • 2 1/2 X 1 1/8 in. (irregular); 6/16 in. body thickness

Item Description:
- C52 is the entire body of a crudely made inkwell. C99-A is an incomplete fragment of a quill holder that was attached to the main body of the inkwell. The holder, when whole, was in the form of a ring that circled the inkwell. Holes in the top of the ring were used as slots for holding pens or quills.
ARTIFACT CONCENTRATIONS ON SITE

Background

To better interpret the Phoenix ceramics, an attempt was made to plot the location of all 750 catalogued artifacts recovered from the wreck. Study of their site location can give important clues about the interior ship layout and shipboard life. Unfortunately, as discussed earlier, the artifacts were not recovered in a manner that provided precise location and, most importantly, some artifacts were recovered with no provenance. Location, when given, was established by using the wreck's frames as reference. The frames were numbered (consecutively from bow to stern) and artifacts were designated by their relationship to a specific frame. For example, if a sherd was found lying between frames 18 and 19; the sherd was given a location designation of 19. Location was made somewhat more precise by indicating from which side, either starboard or port, the sherd was recovered.

Such broad, sometimes incomplete information is less than ideal, but offers the basic data needed to conduct a general review of artifact concentrations. To achieve this end Kevin Crisman’s drawing (Figure 35) of the ship remains was used as basic reference. The completed artifact catalog served as the other major reference.
FIGURE 35. The remains of the Phoenix (after Davison, ed. 1981a:appendix).
Establishing Concentrations

Concentrations were established by developing individual location tables for the four artifact categories (ceramic, glass, metal, and wood). The ceramic category was subdivided into: refined earthenware, coarse earthenware, and stoneware. A table was developed for each. Forty-two rows, one for each frame number, were established in each table. Frame numbers abaft frame 42 were not included since no recovery efforts were made in that portion of the ship. Chase (1983:3) states that a cursory review of this area displayed only minimal artifact presence. Columns for both starboard and port were included for each of the frame numbers. Each catalog sheet was examined and the total sherd count placed in the appropriate cell. A cell for unknown location was included in each table. The tables were reviewed and the following frame concentration criteria were established as a result.

1. light concentration = <11 artifacts
2. medium concentration = 11-50 artifacts
3. heavy concentration = 51-100 artifacts

The Crisman drawing was scanned using Adobe Photoshop software and then imported into a PageMaker file for final manipulation. Each frame area was overlaid with a patterned screen corresponding to the level of artifact concentration.
Results

Refined earthenware was recovered from several areas of the wreck. One-hundred eighty-nine refined earthenware sherds are listed in the catalog with location information. Thirty-five sherds were recovered without location information. See Table 5 for details. Over 50 percent of the artifacts with known locations were found at frame 35, starboard side. Among these sherds were blue transfer-printed wares and shell-edged rim fragments. The next heaviest concentration occurred at frames 8 and 10. Refer to Figure 36 for illustration of these concentrations.

Concentrations of coarse earthenware are illustrated in Figure 37. Thirty-three coarse earthenware artifacts are listed in the catalog. Only 22 of those have any documented location information (Table 6). The largest concentration of artifacts occurred at frame 15, on the port side. All but one of the artifacts were found between frames 8 and 11. The remaining coarse earthenware sherd was recovered from frame 41, port side.

Eighty-five stoneware sherds were recovered and recorded from the Phoenix (Table 7). Eight of those were recovered without provenance. The heaviest concentration of sherds occurred at frames 5, 8, 10, and 15. Three sherds were recovered from frame 37, on the port side. Clearly the majority of stoneware was recovered from frames 5 through 16. See Figure 38 for details.
### TABLE 5
**REFINED EARTHENWARE CONCENTRATIONS**

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*Unknown = 35*
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COARSE EARTHENWARE CONCENTRATIONS

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Unknown = 11
### Table 7
**Stoneware Concentrations**

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Unknown = 8
Three-hundred twenty-two metal objects were recovered from the wreck. Only 22 have a documented location (Table 8). Twelve of those were found at frame nine, port side. Metals were also found at frames 8, 11, 35, 36, and 40. Figure 39 graphically illustrates the metal concentrations.

Glass artifact concentrations are recorded in Table 9 and illustrated in Figure 40. Seventy-eight glass objects were recorded from the site. Fifty-two of those were catalogued with location information. The majority of the glass sherds were recovered from frame 10. Light concentrations occurred near that frame and, additionally, frames 35 through 38.

Interpretation

The results of this examination are less than spectacular and provide information of questionable value. First, the heaviest ceramic concentration occurred amidship (near frame 35, starboard side). The area with the next heaviest ceramic concentration was near the bow (frames 8 through 10, port side). Both areas had high concentrations of shell-edged dishes and decorated pearlware. Stoneware and coarse earthenware were most often found near the bow. Glass was also more heavily concentrated near the bow. The vast majority of metal artifacts and all the wood artifacts were recovered without location information. As a result no accurate development or interpretation of concentration trends for these two categories can occur.
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Unknown = 26
Several interpretations, based on the apparent concentration trends of the ceramics and glass, are possible. Clearly, one general assumption can be made. Food-related tasks (storage and preparation) took place in the forward end of the vessel, between amidships and the bow. Glass and ceramics were scattered over this area. Additionally, one of two brick and ash areas is located in this portion of the wreck. The other is located aft of the engine supports. The 1980 wreck recording team surmised that the forward brick area might have been part of a cooking stove, while the aft brick area was probably part of the ship's boiler (Davison, ed. 1981b:21).

The heavy concentration of decorated pearlware and shell-edged dishes at frame 35, starboard side, suggests that a ceramic cupboard (perhaps just for tableware) might have been located here. In addition, other concentrations of similar ware were found much closer to the bow, the area identified in contemporary descriptions as the crew's quarters. That area also held the heaviest concentration of stoneware and coarse earthenware. These two ceramic types are indicative of a food storage (and possibly preparation) area.

Chase (1983:5-6) interprets these conflicting artifact concentrations by offering two possibilities. One, that food preparation and ceramic storage were accomplished in the area formerly believed to be the crew's quarters. Or, he believes a more accurate possibility, that a pantry was located on the port side of the vessel near the engine (amidship). This location was
convenient to serving the needs of both crew and passengers and
corresponds to the scenario suggested in the Phoenix report edited by
Davison. He supports this configuration, and explains the dual ceramic
concentrations, by putting forth a rather unlikely explanation. Chase
(1983:5) maintains that wave action, when the wreck was stranded on
Colchester Shoal, may have caused the movement of some ceramics from
their original location near the engine to the bow area. This theory
certainly would help solve this dilemma, but seems a rather remote
possibility.

An 1867 history of Lake Champlain navigation, written by Thomas
Canfield, provides insight into this matter by describing the layout of the
Phoenix. Canfield’s (1867:688-689) account suggests that a gentlemen’s
cabin (which also served as the passenger dining room) was located below
deck and entered via a protected stairway. The captain’s office was located
at the head of this stairway and the ladies cabin, located in the stern area,
adjointed the gentlemen’s cabin. Abaft the wheels on one side of the vessel
was a sitting/smoking room, and, on the other side, a baggage room. A
barber’s shop was located forward of the wheels. The ship’s boiler was
located in the center of the ship (abaft the engine) with the captain’s
stateroom on one side and the kitchen and pantry on the other.
A review of the ceramic concentrations, coupled with Canfield’s description, offers a considerably less complicated scenario for the vessel’s layout than the theory supported by Chase. Essentially, three food-related task areas were present on the vessel (Figure 41). They directly correspond to the general artifact concentrations. First, a food storage compartment was likely located below deck in the forward part of the vessel near the crew’s quarters (not an unlikely scenario). The relatively heavy concentrations of stoneware, coarse earthenware, and glass (mostly wine bottles) support this conclusion. Second, a pantry/food preparation area was located on the port side, outboard of the engine. The mix of ceramic types here supports this idea. Third, a ceramic storage cupboard adjoined the pantry area on the starboard side. The very heavy concentration of decorated pearlware and shell-edged plates supports this conclusion. Even more telling is the fact that several shell-edged plate fragments were recovered fused, as if they had been stacked on one another. This basic vessel layout corresponds to Canfield’s (1867:689) account of crew members eating in the pantry between deck watches and also places food-related task areas near the gentlemen’s cabin, the area which served as the passenger dining area. More precise layout, especially vertical placement, is difficult with the information available.
FIGURE 41. The remains of the *Phoenix* with food-related task areas defined (after Davison, ed. 1981a:appendix).
FINAL DISCUSSION AND CONCLUSION

This study seeks the answer to one basic question. What can the ceramics tell us about life aboard the steamboat *Phoenix*? Three specific aspects of this question are especially pertinent. How was a steamboat passenger's environment different from, or similar to, overland travel surroundings? How was life on this ship different from, or similar to, everyday life on land? Was the *Phoenix* plainly or lavishly appointed? Answers to these questions could prove valuable in better understanding the role of the steamboat during the early 19th century, an especially important period that heralded the beginning of the Industrial Age. The foundation for answering these questions has been developed by: (1) presenting a background of the ship's construction, service history, and demise; (2) examining and categorizing the ceramic assemblage recovered from the wreck; (3) presenting diagnostic examples of each of the ceramic categories; and (4) developing artifact concentration information and subsequent site patterns for support of possible interior ship configuration.

The foundation will be completed by examining the ceramic market along the east coast of North America during the early 19th century. This examination will include several specific parts. We will identify who sold ceramics, relative ceramic prices, and popular ceramic types. Consideration will be given to differences between urban and rural ceramic markets using several ceramic assemblages to summarize these
differences. Tavern sites, both urban and rural, will be the primary source of the ceramic assemblage data. One farm site will supplement this examination by summarizing ceramics typical of rural households. Tavern sites were chosen because of their close link to overland travel and because of comparisons made by contemporary travelers between taverns and passenger steamers.

The Ceramic Market

Britain’s dominance of the world ceramic market during the 18th and 19th centuries had a major influence on that country’s economic relations with the United States. A United States Treasury Department report for the years 1824-1826 indicated that the dollar value of British earthenware ranged from 12 to 13 times the value of porcelain imported from England, France, and China combined. The value, per year, was in the $1 million range (Miller 1984:41).

Britain took every advantage of this dominance, even during less prosperous times. The 1807 American trade embargo and Napoleon’s influence on the European continent had caused some hardship to the British ceramic industry early in the 19th century. In response, the industry developed a list of set ceramic prices in 1808 to help maintain their dominance. Producers who did not follow the list were shunned by
their peers. The 1814 version of this list, called "Prices Current of Earthenware" became the standard for pricing and standardizing British wares. It was used, with revisions, until at least 1846 (Miller 1984:40).

Invoices often quoted the official list price and offered a flat discount on the final total. Purchasers gauged their bargaining expertise by reviewing the amount of discount. A copy of the list exists to this day and establishes the following categories: cream colored ware, Egyptian black or basalt ware, edged, dipped, painted, underglaze-lined, willow, and other transfer-prints. Cream colored ware was a generic term referring to creamware, pearlware, and whiteware. Most vessel forms were available as cream colored ware. Egyptian black is a fine-grained, unglazed black stoneware. This ceramic type was most commonly used for teaware. Edged referred to shell-edged ware. It was normally produced in green or blue. Dipped referred to slip-decorated ceramics like mocha ware. Underglaze-lined was a term that described a decoration of one or two lines on the rim of a vessel (usually flatware). Painted referred to simple hand-painted floral or geometric designs, more commonly in blue. Willow was a specific underglaze transfer-printed pattern. It is still in production today. The design was inspired by motifs on oriental porcelains. Other transfer-prints was simply a designation for other transfer-printed designs. During the early 19th century these designs were printed in blue. Later, they were produced in several colors. Over 40
varieties of vessel forms were available in these categories. Cream
colored, edged, dipped, painted, willow, and other transfer-printed
patterns constituted the vast majority of ceramic wares sold to the
American market (Miller 1984:41-44).

At the close of the War of 1812, British ceramic manufacturers flooded
the American market. During this period (the time the Phoenix was being
outfitted) there were two basic ways ceramic goods made their way to
American customers. Importers were the first way. They ordered large
quantities of wares directly from the British production houses. This
direct contact allowed importers to have significant influence with the
manufacturers. Importers could order a specific pattern or vessel type in
large numbers prompting the manufacturers to produce more goods of
that variety. Importers required a good sense of market desires since they
stored goods in large quantities for later sale. They often operated retail
shops in urban areas for customers who desired the latest, and often most
expensive, ceramic styles (Miller 1984:41).

In contrast, ceramic jobbers purchased their goods at permanent
ceramic auction markets held in New York or other major port cities.
Auction markets commonly specialized in cheaper wares and wares that
had not been popular with importers. Jobbers mostly sold their goods
wholesale to country merchants (Miller 1984:41).
An example of a typical New York ceramic auction was held on Friday, 3 November 1815, by Boggs and Thompson in front of their store located at 153 Pearl Street. The auction catalogue lists a total of 140 crates of earthenware for sale (Thomson Family Papers 1815a). Table 10 lists the ceramics contained in one of the crates. Ten other crates contained exactly the same wares as this crate, all wares similar to those which would have been purchased by ceramic jobbers for later sale to country merchants. Note that the catalogue uses the term "twiffler" in its inventory description. A twiffler is simply a plate with an 8 in. diameter, slightly smaller than a dinner plate and slightly larger than a muffin plate (in modern terminology a dessert or cheese plate). This term was commonly used beginning about 1790 and continued well into the 19th century (Savage and Newman 1985:302).

Both jobbers and importers actively pursued the rural ceramic trade. Rural merchants normally traveled to major east coast cities twice a year to buy goods for their shops. George Coates was a ceramic jobber from 1817 to 1831 in Philadelphia, Pennsylvania. His ceramic accounts are an invaluable tool in reviewing the rural American ceramic trade. Twenty-five percent of Coates' sales were to country merchants, all within a few days journey of Philadelphia. Coates, like other jobbers and importers,
### TABLE 10
CRATE NUMBER 10 INVENTORY, BOGGS AND THOMSON AUCTION

<table>
<thead>
<tr>
<th>Description of Wares</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tea cups and saucers, blue painted</td>
<td>21 dozen</td>
<td>1 13 3</td>
</tr>
<tr>
<td>Bowls</td>
<td>4 dozen</td>
<td>0 18 0</td>
</tr>
<tr>
<td>Bowls, 30 fancy col’d (sic) pattern</td>
<td>4 dozen</td>
<td>0 14 0</td>
</tr>
<tr>
<td>Plates, 1/4 soup, blue and green edged</td>
<td>4 dozen</td>
<td>0 8 0</td>
</tr>
<tr>
<td>Twifflers</td>
<td>4 dozen</td>
<td>0 6 0</td>
</tr>
<tr>
<td>Muffins</td>
<td>4 dozen</td>
<td>0 4 8</td>
</tr>
<tr>
<td>Tea cups and saucers, cream colored</td>
<td>12 dozen</td>
<td>0 12 0</td>
</tr>
<tr>
<td>Bowls</td>
<td>6 dozen</td>
<td>0 15 0</td>
</tr>
<tr>
<td>Plates, 1/4 soup</td>
<td>4 dozen</td>
<td>0 6 0</td>
</tr>
<tr>
<td>Twifflers</td>
<td>4 dozen</td>
<td>0 4 5</td>
</tr>
<tr>
<td>Muffins</td>
<td>4 dozen</td>
<td>0 4 0</td>
</tr>
<tr>
<td>Teapots, black glazed china</td>
<td>1 dozen</td>
<td>0 6 0</td>
</tr>
</tbody>
</table>

Source: Thomson Family Papers (1815a:1-2)
developed packages of ceramics for sale to these merchants. These packages contained the ceramics most commonly sold in the rural marketplace (Miller 1984:45).

Miller (1984:38-49) analyzes six of Coates' rural accounts for the period between 1824 and 1830 and finds some pertinent market patterns. First, all six rural shopkeepers carried essentially identical ceramics in their stores. Only one carried porcelain and it was an insignificant portion of the shop's total ceramic stock (six sets of cups and saucers out of 166 sets). The most common ware sold was edged flatware, the cheapest of all available imported, decorated refined earthenware sold by Coates. Painted, refined earthenware (especially teaware) were next and undecorated creamware came next in popularity. The least commonly sold was transfer-printed ware (mostly pearlware and creamware), Coates' most expensive stock. Miller (1984:46) states, "Only two complete services of transfer printed tableware were ordered, each one going to a different merchant."

Additional transfer-printed ware was purchased in individual items like muffin plates (5-7 in. diameter), cups, and saucers.

He concludes that rural customers generally purchased flat tableware and kitchenware in edged or undecorated styles. Transfer-printed flatware (especially dinner plates) was rarely purchased. However, these same customers would sometimes spend two and one-half to three times the cost of cream colored ware on transfer-printed items used in the home for
display or in entertaining guests. The social act of serving tea was especially important at this time so teawares were often purchased in this more expensive style (Miller 1984:47).

Miller develops an index of values for the ceramics sold by Coates. This index was created by dividing the cost of plain cream colored ware into the cost of the same decorated vessels. His results can essentially be summarized as follows: cream colored ware was the cheapest refined earthenware carried by Coates; edged cost approximately one and one-third times the cost of cream colored ware; transfer-printed ware cost two and one-half to three times as much as cream colored ware (Miller 1984:47).

Rural Ceramic Assemblages

The Van Hoosen Farm Site is located in Oakland County, Michigan as part of the Rochester Hills museum. The farmhouse in this complex was built circa 1840, a date somewhat past the period of the Phoenix, but still appropriate because it shows general trends in rural ceramic assemblages during the 19th century. Lemuel Taylor's family moved to this site in 1822 from upstate New York to find land suitable for milling. At first a series of eight cabins were constructed to house the extended family. About 1840 a frame farmhouse, measuring 26 X 26 ft., was built in the Greek Revival style. The house was occupied by family members into the 1920s. Later, it was moved a short distance to the southwest. The original site, including
the basement, was filled and smoothed at this time. Excavations of the basement were conducted in 1988 by a team of archaeologists associated with the Rochester Hills Museum (Remer 1992:140,143).

Not surprisingly, the ceramics recovered from the basement represent wares typically and widely available during the occupation of the site. A total of 1,653 ceramic pieces was recovered in the following varieties (using Remer’s nomenclature): mocha, redware, historical or old blue, spatter/sponge, edge trimmed, ironstone, stoneware, yellow ware, and transfer-printed (colors other than blue). Based on Remer’s (1992:161) conclusion, the edge trimmed (blue unscalloped), ironstone, stoneware (all brown and white molded), yellow ware, spatter/sponge, and transfer-printed (colors other than blue) date after the Phoenix sank. Thus, mocha, redware, edge trimmed (green and blue scalloped) and historical or old blue were wares possibly in use before 1820.

Redware is Remer’s term for coarse earthenware with a red clay body. Mochaware was principally manufactured in England using a creamware, pearlware, or whiteware bases. Its production began around 1785 and it gained its name from the mocha stone, a type of quartz with moss-like markings. Mochaware was decorated using a brush and a liquid pigment containing tobacco (Savage and Newman 1989:194). The resulting design resembles moss. Blue or green edge trimmed ware is a term for shell-
edged ware (especially plates of various types), a type illustrated in this study earlier. Historical, or old blue ware is blue decorated refined earthenware.

Thus, the ceramics from the Van Hoosen farm are all types which George Coates would have sold to his rural customers. There are no surprises here, no rare porcelains or other expensive ceramics were recovered. The edge trimmed and the blue decorated ware were the two most popular ceramic types that Coates sold to rural shopkeepers (Miller 1984:46).

Not surprisingly, we find that ceramics recovered from rural taverns of the same period follow similar patterns. Their ceramic assemblages also contain heavy concentrations of mass produced refined earthenwares (like creamware and pearlware) used primarily to serve food or tea and red coarse earthenwares used in the storage and preparation of food. Two slight variations on this theme can be documented. First, minor amounts of porcelain are sometimes recovered from rural taverns. The total amount of porcelain is inconsequential when viewed in the context of the entire assemblage and most probably represents a few minor pieces used as decoration or in the service of tea. Rural taverns also tend to have very high totals of red coarse earthenware sherds. This is not a surprising
occurrence since the business of a tavern included the preparation and storage of large quantities of food. The following examples of tavern sites will help illustrate these trends.

The Chimney Point Tavern was built in Vermont in 1797 and was located on a high promontory across Lake Champlain from Crown Point, New York. It was a popular spot with travelers, perhaps even those travelling on the Phoenix (Huey 1994). In 1984 the Consulting Archaeology Program at the University of Vermont conducted a survey of the site. They found 2,232 ceramic sherds, heavily dominated by redware, pearlware, and creamware. Only two porcelain sherds were recovered (Thomas et al. 1985:2). See Table 11 for specific sherd counts and corresponding percentages (of total ceramic assemblage).

Another rural site, the Searight Tavern, was established in 1821 along the National Road between Uniontown and Brownsville, Pennsylvania. This prime location helped provide the tavern with a bustling business for most of the 19th century. Later, in the early years of the 20th century, railroads and improved highways changed travel patterns and forced the tavern’s transformation into a residence. In 1970, the California State College Archaeological Field School, California, Pennsylvania excavated the smokehouse or summer kitchen, one of the tavern’s outbuildings, and recovered a total of 3,888 ceramic sherds. Unfortunately, most of the sherds were less than 1 in. in maximum dimension and very little
<table>
<thead>
<tr>
<th>Type</th>
<th>Sherd Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creamware</td>
<td>474</td>
<td>21</td>
</tr>
<tr>
<td>Porcelain</td>
<td>2</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Pearlware</td>
<td>307</td>
<td>14</td>
</tr>
<tr>
<td>Redware</td>
<td>1,387</td>
<td>62</td>
</tr>
<tr>
<td>Black glazed redware</td>
<td>7</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Stoneware</td>
<td>6</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Whiteware</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Unidentified</td>
<td>46</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Thomas et al. (1985:2)
reconstruction was possible, a situation which limited the interpretation of the assemblage. It was especially difficult to ascertain vessel types from these tiny fragments (Michael 1973:1-2,12).

Ronald Michael, director of this excavation, classified the recovered ceramics into seven types: porcelain, creamware, hard yellow paste wares, redwares, stoneware, pearlware, and hard white paste wares. Redwares and the hard white paste wares dominated the sherd count. Table 12 lists the sherd totals and corresponding percentages (of total ceramic assemblage). Michael reported that the redwares were most probably of local manufacture, possibly by the Cephas Gregg or John Riley potteries in Brownsville. He continued to report that all the redwares were apparently from storage jars. Similarly, a significant portion of the stoneware was of local manufacture. Most of the vessels were produced by stoneware potteries in the New Geneva-Greensboro-Rices Landing-Fredericktown, Pennsylvania area. A few sherds with Bristol glazes, molded rims, and slip glazes were the possible exceptions. Michael did not classify the vessel types of these sherds (Michael 1973:2-3,12).

Creamware from the Searight Tavern was either plain or with a mocha decoration. Michael did not elaborate further on this ceramic type. Fifty-four percent of the fourth ceramic category, pearlware, was undecorated, while 23 percent was blue transfer-print. Twelve percent of the pearlware was blue hand-painted or blue edged. It was all of English manufacture.
### TABLE 12
CERAMIC TYPES AND TOTALS, SEARIGHT TAVERN

<table>
<thead>
<tr>
<th>Type</th>
<th>Sherd Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porcelain</td>
<td>91</td>
<td>2</td>
</tr>
<tr>
<td>Creamware</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hard Yellow Paste Wares</td>
<td>203</td>
<td>5</td>
</tr>
<tr>
<td>Redwares</td>
<td>1,069</td>
<td>28</td>
</tr>
<tr>
<td>Stoneware</td>
<td>130</td>
<td>3</td>
</tr>
<tr>
<td>Pearlware</td>
<td>360</td>
<td>10</td>
</tr>
<tr>
<td>Hard White Paste Wares</td>
<td>2,035</td>
<td>52</td>
</tr>
</tbody>
</table>

Source: Michael (1973:4-12)
Hard yellow paste wares were possibly of western Pennsylvania or eastern Ohio manufacture and were primarily bowls and serving dishes. Only 91 porcelain sherds were recovered, none were transfer-printed. They were either plain, polychrome floral design, or with gold banding. Hard white paste wares dominated the assemblage, totaling 2,035 sherds. Michael included in this last category: ironstones, stone chinas, and semi porcelains (Michael 1973:4-12).

As mentioned previously, and as illustrated by these examples, ceramics found in most rural contexts (taverns and farm homes) can be divided into two main categories. First, various mass produced refined earthenwares were most prevalent in the assemblages and were used primarily as service pieces. Extremely inexpensive types such as shell-edged plates or undecorated vessels were frequently found, while the more expensive hand-painted and transfer-print wares were found less often. Second, storage and preparation wares were also found in abundance and were made from coarse red earthenwares and stoneware. This pattern is echoed in the wares recovered from the Phoenix and will be discussed in more detail in the concluding remarks.

Ceramics in the Urban Market

Many urban ceramic customers exhibited a contrasting purchasing pattern from their rural counterparts. They often purchased ceramics directly from importers, thereby obtaining a wider range of ceramic types
(in the latest and most sought after styles) than rural customers. Often, their ceramic purchases included costly porcelains, a ceramic type found rarely in rural contexts and one which cost significantly greater sums than pearlware or other mass produced refined wares. An 1835 inventory of a china shop in New York provides illustration of that difference. Porcelain composed 44 percent of the shop’s total stock, a significant percentage in light of porcelain’s much greater expense. Miller’s index of values establishes the cost of undecorated white porcelain at nine times the cost of cream colored ware. Gilt-edged porcelain cost 14 times the price of cream colored ware (Miller 1984:48). Obviously, if a New York shop could devote almost one-half of its stock to porcelain wares, its customers were capable of spending significant sums on their household ceramics. In contrast, rural shops (as shown in Coates’ records) rarely stocked such expensive goods.

Though such shops often purchased directly from ceramic importers, this was not their sole method of procuring goods. They, like ceramic jobbers, frequented auction markets where they searched for ceramics suited to the more sophisticated tastes and larger budgets of their urban customers. On 15 September 1815, Hoffman and Glass held an auction at Number 67, Wall Street, New York City. A total of 149 crates were auctioned that day, some containing wares suitable to the tastes of more affluent and urbane customers. Table 13 lists the contents and prices of
# TABLE 13
CRATE NUMBER 29 INVENTORY, HOFFMAN AND GLASS AUCTION

<table>
<thead>
<tr>
<th>Description of Wares</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressed eagle gold bordered jugs</td>
<td>4 each</td>
<td>0 5 0</td>
</tr>
<tr>
<td>Pressed eagle gold bordered jugs</td>
<td>8 each</td>
<td>0 11 1</td>
</tr>
<tr>
<td>Black printed silver lines on drab jugs</td>
<td>12 each</td>
<td>0 16 4</td>
</tr>
<tr>
<td>Gold landscape key bordered jugs</td>
<td>11 each</td>
<td>1 5 4</td>
</tr>
<tr>
<td>Gold landscape key on white jugs</td>
<td>11 each</td>
<td>1 5 0</td>
</tr>
<tr>
<td>Gold landscape key on drab jugs</td>
<td>11 each</td>
<td>1 6 8</td>
</tr>
<tr>
<td>Printed jugs</td>
<td>27 each</td>
<td>1 10 0</td>
</tr>
<tr>
<td>Purple printed white jugs with gold lines</td>
<td>1 1/4 each (sic)</td>
<td>1 5 0</td>
</tr>
<tr>
<td>Bird’s eye jugs</td>
<td>25 each</td>
<td>0 10 3</td>
</tr>
<tr>
<td>Enamelled mugs</td>
<td>6 each</td>
<td>0 6 0</td>
</tr>
<tr>
<td>Enamelled China (sic) tea sets</td>
<td>15 sets</td>
<td>9 0 0</td>
</tr>
<tr>
<td>Teapots, blue printed</td>
<td>24 each</td>
<td>2 2 0</td>
</tr>
</tbody>
</table>

Source: Thomson Family Papers 1815b:3
one of these crates (Thomson Family Papers 1815b). Of special note in the
catalogue inventory is the listing of 15 matched tea services, all made of
enamelled "China" (a common term for porcelain). As shown in Coates'
accounts, matched porcelain tea sets were extremely uncommon in rural
shops. Only one of his customers carried porcelain, and even then only
six sets of cups and saucers. No complete, matched tea services were
stocked.

Such sophisticated tastes were often represented in the wide variety of
ceramics found at urban taverns. Both urban and rural taverns held a
common business focus, one which required significant amounts of
utilitarian ware (coarse earthenware and stoneware) for the preparation
and storage of large quantities of food, but larger quantities of exotic and
expensive wares were found at urban locations. One famous example is
the Wetherburn Tavern which began business around 1750 in
Williamsburg, Virginia and still stands today. Williamsburg's role as a
colonial capital and a political center along the east coast was an especially
important factor in its urbanization, an urbanization which is reflected in
the wealth of exotic materials recovered from its archaeological sites. In
Noël Hume's landmark excavations at the tavern, he found many
interesting and expensive ceramics. His finds included a partial
Westerwald mug, a significant amount of overglaze enamelled Chinese export porcelain, white salt-glaze stoneware, and green glazed cream bodied ware (Feister 1975:12).

In 1969, a salvage excavation was conducted at another urban site, the Hudibras Tavern in Princeton, New Jersey. This tavern began business in 1761 and ended operation sometime in the 1830s. Ceramic materials recovered from the site included: delft, “quite a number and variety” of Chinese export porcelains, red earthenware, coarse salt-glazed stoneware crocks, late yellow ware, creamware, pearlware, ironstone, and whiteware (Feister 1975:14). Similarly, the Man Loaded with Mischief Tavern, which operated in Philadelphia between 1760 and 1870, was a center of urban hospitality. Excavations at this establishment revealed a total of 502 ceramic sherds. Pearlware dominated the sherd count and other refined earthenwares, specifically creamware and ironstone, followed closely. Though porcelain sherds accounted for a small percentage of the total, they were in slightly greater abundance than at tavern sites in rural areas (like Searight or Chimney Point). See Table 14 for specific sherd counts and percentages (Feister 1975:13).

Perceptions and Experiences of Contemporary Travelers

How does the Phoenix ceramic assemblage relate to the contemporary market patterns? To determine this we first must analyze another market aspect, the perception of passengers (the ship’s ceramic “customers”) on
### TABLE 14
CERAMIC TYPES AND TOTALS, MAN LOADED WITH MISCHIEF TAVERN

<table>
<thead>
<tr>
<th>Type</th>
<th>Sherd Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porcelain</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Delft</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>White salt-glazed stoneware</td>
<td>1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Creamware</td>
<td>78</td>
<td>16</td>
</tr>
<tr>
<td>Buff earthenware</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Red earthenware</td>
<td>95</td>
<td>19</td>
</tr>
<tr>
<td>Coarse salt-glazed stoneware</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Pearlware</td>
<td>209</td>
<td>42</td>
</tr>
<tr>
<td>Ironstone</td>
<td>66</td>
<td>13</td>
</tr>
<tr>
<td>White earthenware</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Feister (1975:13)
board the ship. John Duncan made two passages aboard the vessel during his 1818-1819 travels. His account describes the ship as a “very fine vessel” (Duncan 1823:228) and it compares travel aboard steamboats as comparable to staying at an inn or tavern. Berths were comfortable and the substantial meals served included treats like jellies, dried fruits, and pastries. He described the tableware on steamboats as “Indian China,” although one vessel on the Chesapeake had a customized table service made in Canton, China (Duncan 1823:315).

Duncan’s comparison of passenger steamboats to inns or taverns is especially insightful. His account describes his experience at inns, a lucky circumstance that helps us better understand the comparison. Inns and taverns (which sometimes included rooms for overnight guests) in the early 19th century offered a substantially different experience to their guests than what a modern hotel guest might expect. They offered a wide range of services including: meals, lodging, stables, and horse fodder. Commonly, breakfast, lunch, and dinner might cost a total of $0.75 with lodging and associated horse care bringing the total to approximately $1.40 per day (Thomas 1819:194).

Duncan (1823:315-316) reported breakfast was normally served between 7:00 and 8:00 A.M., dinner at 2:00 or 3:00 P.M., and tea at 7:00 P.M. The fare for breakfast and tea might consist of beef steaks, sausages, fowl, fish, potatoes, and pickles. It also seems that Americans ate very quickly. For
breakfast an American might put two half-boiled eggs in a wine glass, 
drink them, eat a piece of toast and sausage, and finish it all off with coffee, 
a process that took no more than five minutes.

Conclusion

The foundation is now complete. What does it tell us? For passengers, 
life on board the *Phoenix* was similar to a stay at a rural inn or tavern. 
They were provided with comforts commonly associated with land travel. 
Substantial meals were served on ceramics similar in quality to those sold 
to many rural customers and used at rural taverns. Relatively 
inexpensive shell-edged plates constituted the bulk of tableware, 
approximately 36 percent (see Figures 12 and 13 for examples). Several 
different plate diameters and slight variations in the blue shell-edged 
motif were recovered from the wreck. Variations in the recovered 
examples point to the possibility that plates were produced by several 
different manufacturers. Only two bases have makers’ marks and those 
are both simple impressed anchors. The anchor was a mark commonly 
used by English manufacturers and the specific maker could not be 
identified (Godden 1964:708). The other plate bases have no visible 
markings.

Several different decorated, refined earthenwares were recovered from 
the wreck. Mostly these are teawares and they represent 16 percent of the 
total refined earthenware recovered from the wreck. A transfer-print
teapot and two different sets of tea bowls and saucers were identified in the assemblage. Their decorations include a transfer-printed oak leaf and Greek key design (Figures 14 and 15) and a hand-painted leaf or feather motif (Figures 16 and 17). Simple, inexpensive utility vessels recovered from the site include part of an undecorated creamware chamber pot rim. Several stoneware bottles (Figures 30 and 31) and wide-mouthed coarse earthenware corks (Figure 27) are other typical examples of utilitarian vessels from the ship.

These ceramics resemble those sold by Coates to rural shopkeepers or the ceramics found at the Van Hoosen farm, Chimney Point Tavern, or the Searight Tavern. Luxuries like those found in the homes of wealthy individuals, such as the British aristocrat the Countess of Granville or equally wealthy American citizens, were not in evidence on the ship. An example of such opulence was recorded by the Countess in the autumn of 1810 when she served a dinner (for herself and the earl) on silver, porcelain, and cut glass. Chicken, veal, hare, fish, soup, melons, tarts, nectarines, peaches, and wine made-up only part of the menu. Four hours later a supper of similar proportion was served. The Countess was not alone in her extravagant display of wealth. Many other rich families purchased magnificent porcelain table services for similar dining events. The services were heavy with gilded ornament, armorial designs, floral motifs, oriental designs, and landscapes. By 1815, these individual services
had evolved to total 130 pieces: 9 serving dishes of various shapes with
covers, 2 sauce tureens with stands and ladles, 2 oval egg stands with 12
egg cups each, 6 meat dishes, 4 oval dishes, 1 salad bowl, 24 soup plates, 24
dinner plates and 24 dessert plates. And, in case that was not quite
enough, no fashionable home was complete without a matched tea and
coffee set with a full complement of saucers (Ramsey ed. 1961:61-63). No
such wares were recovered from the Phoenix.

Though definitely a luxury item, porcelain was easily attainable by
customers able to afford its cost. What does this tell us? It seems that the
ceramics used on board the Phoenix, and likely the style of dining, closely
resembled that of ordinary rural American homes and inns. Passengers
dined together, below deck, in the large gentlemen’s cabin. Their meals
were taken in a fashion similar to that described by James Stuart while
traveling aboard the North America, a description which is summarized
in the introductory section of this paper. Meals consisted of a variety of
foods and were served in a series of courses. No evidence of a strict
passenger class structure (first class, second class, or third class separations)
is apparent, though it is quite possible passengers’ servants ate separately.

True luxury items, ceramics like porcelain, were not part of life on this
ship, suggesting that in its strictest definition the Phoenix was not a luxury
vessel. We must remember however that steamship travel was
somewhat of an oddity in 1819 and travel was often an exhausting and
dirty affair. A vessel outfitted with the conveniences of home (substantial meals served on decorated, if inexpensive to moderately priced ceramics) would have seemed more than adequate, even luxurious to most travelers in 1819. Later in the century, steam-driven passenger vessels became more lavish, and offered a true range of luxurious amenities (Simmons 1988:200-206). The *Phoenix* was not an example of that kind of ship. Instead, she was a pioneer in mechanized water travel offering her passengers comforts much like a rural home or inn.
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Lester James Haddan attended Texas A&M University where he earned a Bachelor of Environmental Design in August, 1987. During the summer of 1990 Mr. Haddan completed his archaeological fieldwork training in Port Royal, Jamaica at the underwater site of a 17th century English port city. Presently, Mr. Haddan designs and produces museum exhibits. He specializes in exhibits focusing on American history and American decorative arts. His dual backgrounds in architectural design and archaeology give him unique skills and a special sensitivity to the museum design milieu. Mr. Haddan has served in this capacity in museums in Texas, California, and Arizona. His permanent address is: HCR 2 Box 59, Stinnett, TX 79083.