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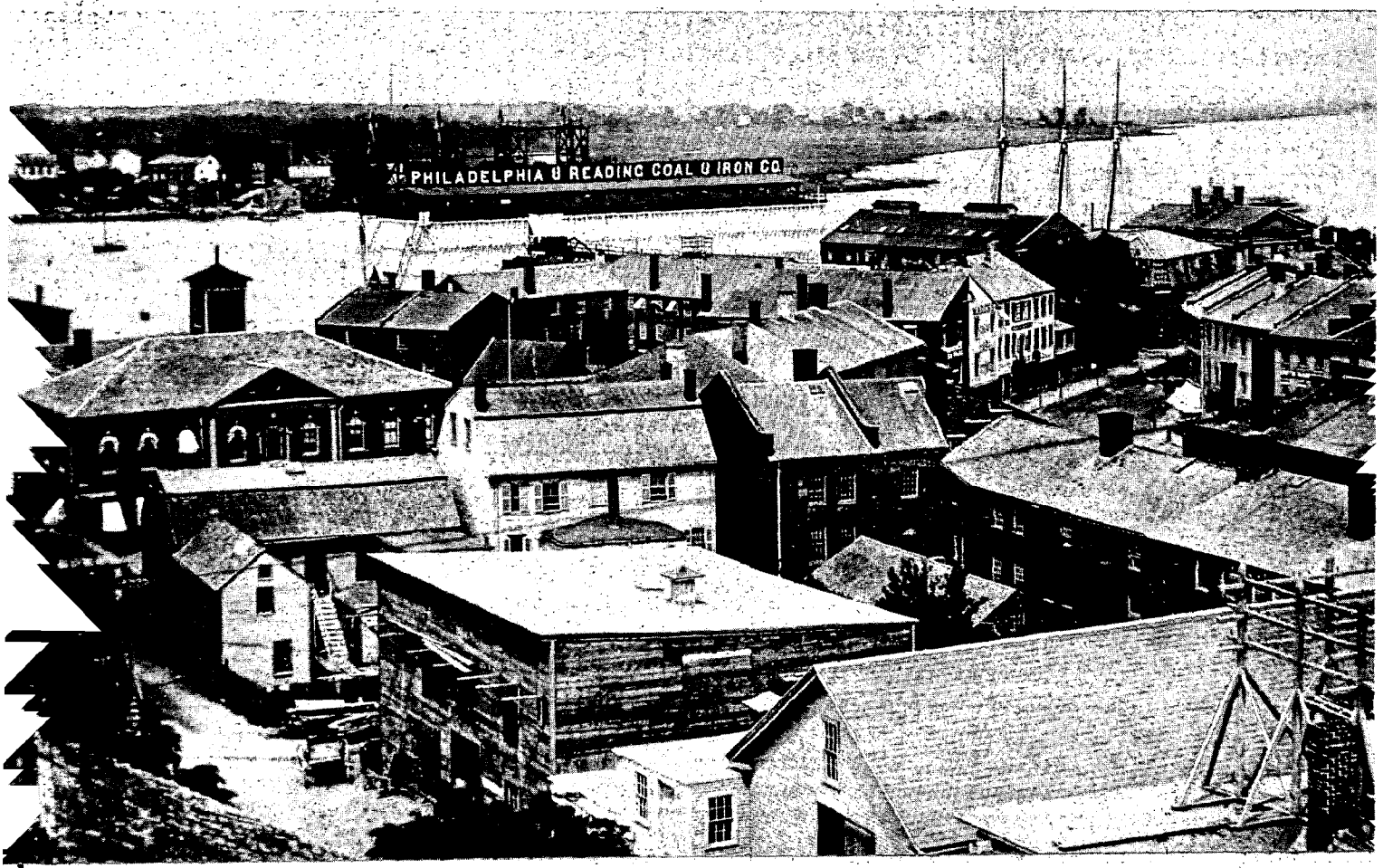
PORT AND MARKET



ARCHAEOLOGY OF THE CENTRAL WATERFRONT NEWBURYPORT, MASSACHUSETTS

Prepared for the National Park Service

cy Archeological Services-Atlanta

ulkner, Kim Mark Peters, David P. Sell, and Edwin S. Dethlefsen

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16. Abstracts

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PORT AND MARKET:

ARCHAEOLOGY OF THE CENTRAL WATERFRONT

NEWBURYPORT, MASSACHUSETTS

By

Alaric Faulkner, Kim Mark Peters, David P. Sell, and Edwin S. Dethlefsen

A report submitted to the National Park Service, Interagency Archeological Services-Atlanta, of work performed under contract CX 5880-7-0084.

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Cover: Newburyport Central Waterfront from the southwest, ca. 1886.

ABSTRACT

Although pre-settlement remains apparently have been disturbed or obliterated along the Newburyport Central Waterfront, historic structures and associated refuse are preserved intact. Of several former wharfside business complexes, the brick Merchant's Row, built in stages from 1770 to 1820, was best represented. Also identified were probable areas of Colonial goldsmithing, wigmaking, and comb and button manufacture, as well as 19th century foundry work and machine fabrication. Domestic refuse from an 18th century home and a 19th century boardinghouse provided a unique contrast of waterfront residential life in the Colonial and Industrial periods.

Archaeological and historical information reveal a changing pattern of land use. Parcels allotted for 17th century port facilities on the Merrimack were subdivided and developed in the 18th century as maritime commerce attained importance which surpassed that of shipbuilding. Profits from privateering and neutral trade and destruction caused by the fire of 1811 all led to episodes of new construction. The unspecialized Colonial market area was replaced with a Federalist business district, functionally segregated by zone and floor. This district still stands. As maritime industries declined, wharfside properties were consolidated, and by 1876 were dominated by a railroad and coal pocket. Today this property is vacant.

ACKNOWLEDGMENTS

This project was funded under contract no. CX 5880-7-0084 issued by the Interagency Archeological Services branch of the National Park Service at Atlanta. Franklin Pierce College deserves credit for administering contract funds, supplying equipment and facilities for the project, and providing student help. The University of Wisconsin-Oshkosh is thanked for granting leave of absence to the principal investigator for the fall semester of 1977, for promoting a summer field school, and providing certain key pieces of equipment.

In gathering background data, we are especially grateful for the special attention given us by personnel at the Newburyport Public Library and the Essex Institute. Also, Russell Barber shared with us his current research on the prehistoric sites of the Merrimack estuary, and Steven Pendery the results of his excavations at the historic Strawberry Banke area of Portsmouth, N.H. Many citizens--unfortunately too many to name--showed us photographs, artifacts, and early newspapers, expressing their interest in Newburyport's history.

In the field, we were grateful for the cooperation of the Newburyport Redevelopment Authority, who have made their facilities available to us. Also the contractors and construction crews, for whom we provided many hours of entertainment, altered their plans so that there was minimal interference with our excavation. George Rossi & Co. arranged for us to procure certain pieces of heavy equipment, while the Fire Department generously loaned us hose for our drainage pumps. The field crew members, who worked for college credit or modest renumeration, deserve special thanks for adhering strictly to excavation procedures, for keeping to the excavation schedule, and for producing excellent field maps and records.

Because much of this report had to be completed in the field, we are especially indebted to Woodman Associates, who provided professional drafting facilities and valuable technical assistance. We are also grateful to The Newburyport Press for the rapid turnover afforded us in reproducing our artwork. Finally, we thank Christine Pienciak Peters for preparing most of the line drawings and typing initial drafts of this report, and Bonnie L. Williams for typing this final draft.

PREFACE

In many respects, our research along the waterfront behind Market Square was unusual, if not unique. The archaeological study came about after nearly ten years of legal controversies concerning the urban redevelopment of Newburyport's Market Square district. While the architectural integrity of the Federalist business district was recognized, there had been no formal attempt to study the archaeology of the waterfront area behind Market Square, an area which had been the economic focus of this once thriving New England seaport. The fact that the archaeological record was threatened by redevelopment was a matter of genuine concern to the Friends of the Newburyport Waterfront. Yet, the existence of potentially significant archaeological finds was disputed by the Newburyport Redevelopment Authority. In the face of recent legislation governing the assessment of archaeological sites, which are threatened by federally funded projects, both parties ultimately agreed that an archaeological study of the waterfront was necessary. The responsibility for conducting the archaeological work was taken on by the Interagency Archeological Services branch of the National Park Service at Atlanta.

This study was performed for the Interagency Archeological Services as a technical assessment of the waterfront's cultural resources. The report was written primarily to satisfy certain specific legal requirements stemming from litigation between the Friends and the Redevelopment Authority. In particular, the significance of any archaeological remains was to be evaluated according to criteria established for nominating sites to the National Register of Historic Places. The extent of preservation of archaeological remains and their historical significance are documented in parts I and II respectively, and have been summarized in a report submitted separately. In order to free the narrative from some of the technical detail of this assessment, some of our supporting data is relegated to appendices, where we hope it will prove useful to future researchers and other interested parties.

The task of evaluating the archaeological potential of the Central Waterfront was complicated by progress already made in initial stages of redevelopment. Except for the Federalist architecture fronting on Market Square, all of the buildings along the waterfront (recent and Federalist alike) had been razed by 1971. Although covered with massive piles of rubble and granite blocks, the project area was otherwise featureless. We found ourselves attempting to reconstruct and evaluate buildings which had been standing only a few years earlier.

In spite of the belated decision to excavate at Newburyport, the project offered exceptional opportunities for research. A wealth of historical background material was available, including some major works relevant to the history of Newburyport's commercial development. Historic records of property transfers and probates of estates were intact and accessible. Nearly complete sets of city directories were available, as were insurance maps of the project area. A large number of 19th century photographs of the study area were also at hand.

The very location of the project lent itself to making good use of this commercial data. The study area was, after all, the central business district of the early port, through which traveled most of the goods which made up the early merchant and later industrial economies. The history of the development

of this waterfront must therefore reflect the economic well-being of the town. Finally, the waterfront promised to be archaeologically productive. It had expanded vertically, as buildings were demolished and new structures erected on top of them, and horizontally, as wharves were extended to meet the requirements of expanded shipping and larger ships. Each episode of landfilling tended to preserve the subsurface record of the port's development.

The investigators brought to the field a broad background of research interests useful in interpreting the project area. Included were an archaeologist, an historic geographer, an historian/sociologist, and a demographer. All have been in continuous day-to-day contact, and have worn each other's hats in constant collaboration. The result had been a continuous feedback of information, from the initial research phase when historical records guided the selection of excavation sites, to the final stages of synthesis of archaeological and historical information.

Our probes into the Central Waterfront were met with only a few disappointments. One hope was that we might encounter archaeological remains which antedated the Colonial Period. We did indeed find prehistoric, aboriginal materials here, but these were found in areas which had been disturbed by Federalist construction, and were therefore of limited interpretive value. Also we uncovered no evidence for occupation during the period of European contact, such as the supposed trader's cache known in local histories and property descriptions as "Watts His Cellar." The chance for finding such materials in undisturbed contexts is remote because of subsequent disturbances during the development of the early waterfront. Although the aboriginal encampments and Watts's Cellar are both discussed in the text, the majority of the study deals with the Colonial, Federalist, and 19th Century Industrial histories of the Central Waterfront. It is for these periods that significant, useful data exist.

A major requirement of the archaeological contract was preparation of a series of overlay maps showing how the study area has changed. The owners of the buildings were to be identified, as were their occupations and the changing function of individual residences and businesses. We have taken the changing pattern of commercial and residential land use as the major focus of our analysis, and have concentrated on those changes which occurred from the middle of the 17th century through the end of the 19th century. It was in this time span that the waterfront and Market Square took its basic form, preserved, in part, today.

In one sense, our work is consistent with the comparatively recent trend toward explaining major events in America through developments in local, rather than regional, history. Two examples of this approach stand out, for they are based specifically on Newburyport.

Benjamin Labaree (1975) has dealt with changes in American political attitudes from the end of the Colonial Period through the War of 1812, studying the changing social and political structure of Newburyport. His work Patriots and Partisans considers the attitudes of Newburyport's seafaring merchant class. These men were affected directly by the regulation of trade in colonial markets, the economic hardships of the revolution, the high profits of neutral trade during the Napoleonic Wars, and the crushing blow of Jefferson's Embargo. Labaree describes the responses of the merchant class to these events and shows how they reflect the changing makeup of the class itself.

Similar in approach to Labaree's work is that of Stephan Thernstrom (1964). Povety and Progress: Social Mobility in a Nineteenth Century City tests the concept of the American self-made man by examining local history. Like Labaree, he deals with a specific social class, in this case the unskilled manual laborers of Newburyport.

In another sense, the approach of this study is unique among the literature on Newburyport. While previous histories have focused their attention on personages, historical events, economic histories, and social classes, our thesis concerns a single piece of real estate at the city's center, and examines how that land was divided up and occupied. We are, in purport, striving to define the origins and spirit of the present landscape.

CONTENTS

Abstract iii

Acknowledgments v

Preface vii

1. Introduction 1

Part I -- Excavation

2. Archaeological Fieldwork 13

3. Changing Panoramas 27

4. Old Families and Immigrants at the Watkins Site. 61

Part II -- Historical Review

5. Pre-Colonial Visitors and Settlers 89

6. Farming, Commerce, and Shipbuilding, 1635-1700 95

7. Colonial Prosperity and the Spoils of War, 1700-1790 103

8. Evolution of the Federalist Business District, 1790-1815 . . . 117

9. Images and Industry, 1815-1900 131

10. Epilog 157

Appendices

A. Profile Descriptions and Interpretations 161

B. Property Title Trace 209

C. City Directories 233

D. Historic Earthquakes of Newburyport, Massachusetts 247

E. Topography 250

References

Maps 253

Public Records Cited 254

Books and Articles Cited 254

PORT AND MARKET: ARCHAEOLOGY OF THE CENTRAL WATERFRONT NEWBURYPORT, MASSACHUSETTS

1. INTRODUCTION

Newburyport, a small city of about 16,000 inhabitants, lies at the mouth of the Merrimack River, 40 miles north of Boston (Fig. 1.1). Here, in 1655, a port was established for the settlement of "Newberry," centered some three and a half miles to the south (Currier 1896:10). As commerce and shipbuilding grew, a substantial new settlement emerged on this site. Inevitably the maritime interests of these inhabitants diverged from those of their farming neighbors, and in 1764 the "New Town" became incorporated under the name "Newburyport" (Cushing 1826:1). By 1800, Newburyport had become one of the leading commercial ports in New England.

In 1811, a devastating fire broke out which destroyed most of the central business district. During the period of reconstruction which followed, a building code was enacted which prohibited the construction of any wooden building over ten feet high (Currier 1906:154). Although this legislation was repealed in 1832, most of the brick buildings which survive today date from the period when this code was still in force.

Newburyport's maritime economy went into a decline during the Jeffersonian Embargo and the War of 1812, and although the city experienced a brief period of industrialization in the 1840's and a subsequent resurgence of its shipbuilding industry, it never regained its former economic prominence (Thernstrom 1964:10-11). The economic forces of the Industrial Revolution which reshaped so many other American cities, had a lesser effect on Newburyport. The architecture and flavor of its Federalist Period have remained essentially intact.

Today the city is in the process of being refurbished, adapting these early buildings to suit the modern needs of the community, while preserving the Federalist atmosphere of the downtown area. Most of the buildings fronting on Market Square, at the center of the business district, have been salvaged. Yet, the wharfside structures immediately to the north of Market Square have not been saved. This area, once the heart of the Federalist port, was substantially altered by late 19th century railroad and coal pocket construction, and only a few early Federalist buildings survived into the 20th century. Unfortunately, these buildings together with more modern structures, were razed in the course of current redevelopment. Our purpose here is to assess and interpret the archaeological remains of this area--the Central Waterfront.

Physical Setting

The Newburyport harbor is set in a nearly landlocked estuary (Fig. 1.2). Longshore currents have built up huge sand bars--Plum Island and Salisbury Beach--which protect the harbor. The channel through the bar is narrow and quite shallow, with several navigation hazards.

The hydrology and topography of the area derive from Late Pleistocene glaciation. Kames and kettles dot the undulating terrain, indicating clearly that the majority of the native surface features are glacial outwash. The coast

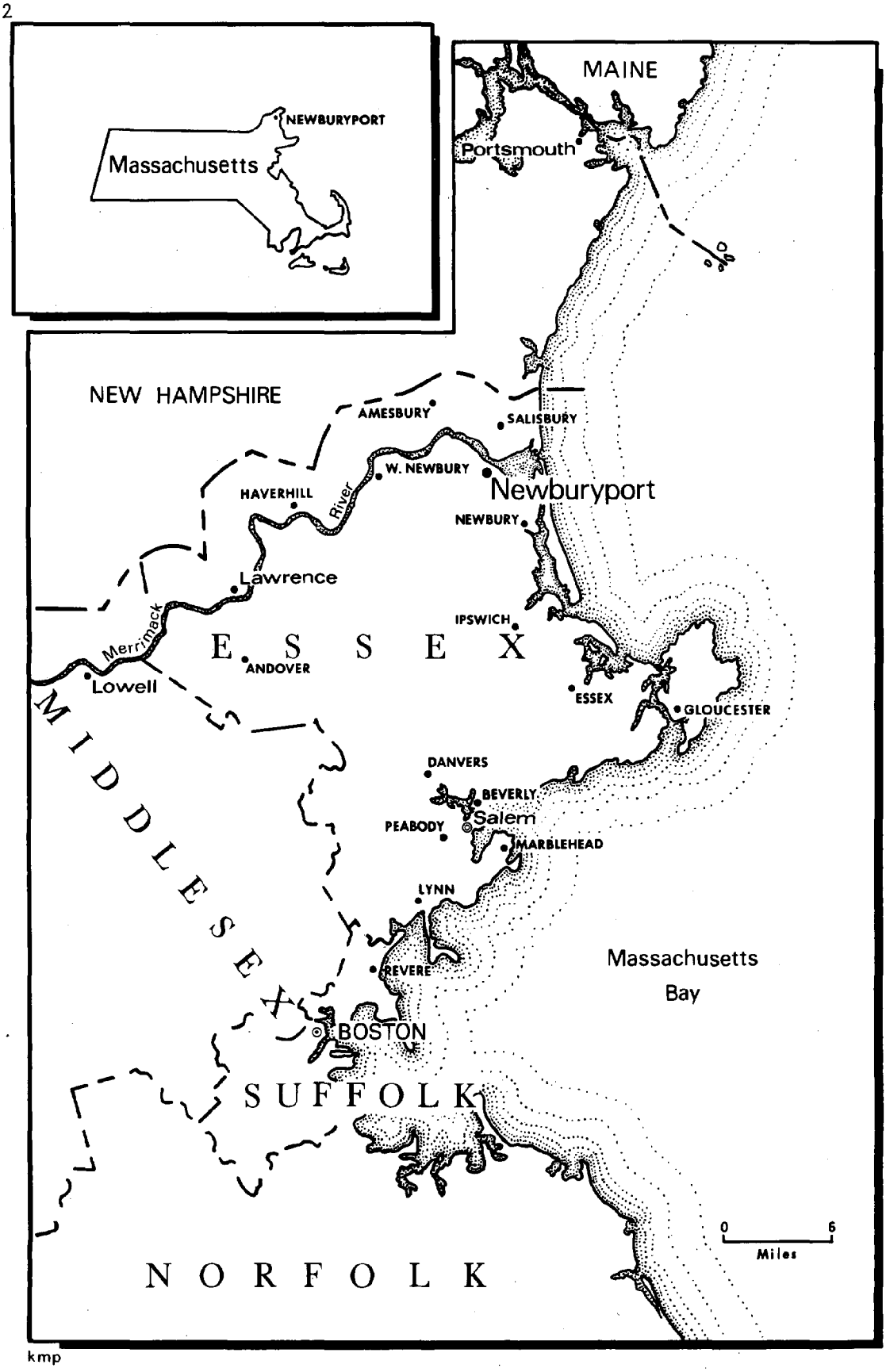


Fig. 1.1. Massachusetts' North Shore.

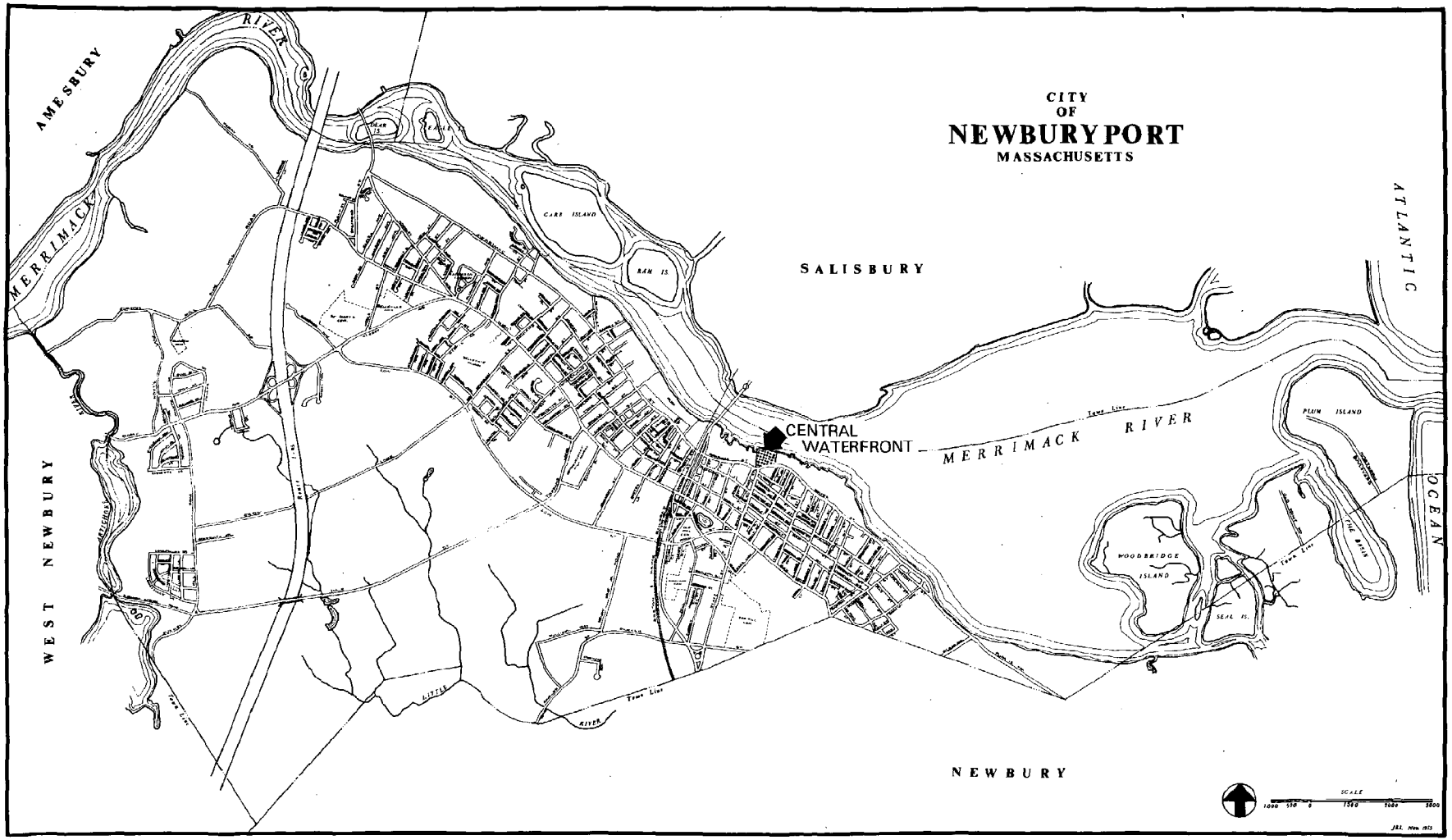


Fig. 1.2. Newburyport and the Merrimack estuary. Base map courtesy of the Newburyport Redevelopment Authority.

and the Merrimack River show the effects of drowning as a result of a relative rise in sea level after the melting of the continental ice sheet. According to Hartwell (1970), the stratigraphy of the marshes in the Merrimack estuary shows a gradual marine transgression beginning about 6300 years ago. At Boston, the bay and rivers have been submerged 5 meters since about 4500 years ago, as indicated by a prehistoric fishweir discovered below Boylston Street (Johnson 1942). In nearby coastal Maine, similar submergence is noted for the last 4200 years, affecting the location of clam and other shellfish beds (Snow 1972:212).

For all periods of its settlement, the configuration of Newburyport's drowned coastline has been significant. The expansion of the river into the estuary and thence into the Atlantic, has created ecotones--junctions of major ecosystems--offering a wide variety of plant and animal resources. Undoubtedly these resources had considerable appeal to the area's aboriginal inhabitants. The estuary itself provided abundant wildlife. Alewives and salmon could be netted, or entrapped and speared in the channel. Migratory and non-migratory waterfowl could be taken by net or projectile in the marshlands. Extensive clam, quahog, and oyster beds could be harvested in the tidelands. At the same time, the river gave access to other interior resources. Riverine hunting along the forest margins must have included large herbivores such as white-tailed deer and moose, or carnivores such as wolf and bear. Numerous small game species were available too, including beaver, fisher, marten, muskrat, red fox, and many others. Sturgeon and other freshwater fish were surely exploited. Then, too, were marine resources such as shad, swordfish, sea urchin, and perhaps harbor seal, all available to those with appropriate hunting and fishing know-how. Finally, the plant life throughout these areas showed comparable variety and abundance. This vegetation was probably of equal importance in making the area an attractive place to visit or settle.

Although the requirements of white settlement were somewhat different from those of the aboriginal inhabitants, they also took advantage of various ecotones. The river provided access to the developing hinterland and its products, including produce for export and timber for the town's early shipbuilding industry. Protected from the Atlantic surf by Plum Island and Salisbury Beach, the estuary made a snug harbor, and supported commercial shellfishing. Offshore fisheries could easily be reached in small boats in the course of a day's sailing.

However suitable the mouth of the Merrimack may have been in Colonial times, its potential for growth as a harbor was limited. Sand bars at the mouth of the Merrimack were difficult to negotiate, even with the assistance of Captain Furlong's American Coast Pilot:

> I would recommend to all masters, whether they belong to Newburyport or not, to avoid going into that port in a gale of easterly wind, except they are well acquainted, and have a good prospect of getting in, as every person acquainted with the harbour knows that no pilot can get over the bar when it blows a gale from the eastward (Furlong 1812:144).

Finally, like other coastal towns, Newburyport's location was a hindrance to her industrialization. Below the fall line, she lacked the waterpower necessary for early manufacturing. It was not until the perfection of steam-powered industry in the 1840's that this problem was overcome.

The Project Area

The Central Waterfront grew up around land granted to Captain Paul White in 1655, some 20 years after the settlement of Newbury. His was a comparatively small parcel, less than half an acre, located on a point of rocks jutting into the Merrimack River (Currier 1896:151). Captain White, a merchant from Pemaquid, Maine, built here the nucleus of Newbury's early port facilities: a wharf, a warehouse, a distillery, and a dock (Currier 1877:16). Other merchants soon moved into the area, adding their houses, wharves, and warehouses to the scattering of farms already established near the waterfront. Through the remainder of the 17th century and into the 18th century the port grew in size and importance, first prominent in shipbuilding and later in commerce. The Central Waterfront remained the focus of the settlement which in 1764 became Newburyport.

In the 1790's, Newburyport's Colonial merchants, many of whom lived near the waterfront, were replaced by a new group of businessmen. At the intersection of Water and State streets, immediately south of Captain White's grant, they built a strictly commercial business district. With a greater sense of tradition than geometry, Newburyporters called the district "Market Square," for the configuration of the intersection was clearly triangular. By 1811, many shops were organized into multiple units or "row houses," most of which were constructed of brick. In May of that year, "The Great Fire" leveled this business district, sparing only a few structures at the westernmost end. Newburyport's selectmen enacted the building code mentioned previously, and Market Square was rebuilt entirely in brick and stone (Fig. 1.3).

Most of the buildings around Market Square are long three-story row houses having stores on the bottom floor. Division into individual units is apparent only at the roofline, where fire partitions emerge as stepped gables. Along the Central Waterfront, however, construction was limited to shorter row buildings and individual structures, interrupted by numerous public and private "ways" which once provided access to wharves, warehouses, and other wharfside stores. Although harmonious with the architecture of Market Square, the surviving buildings of the project area are distinctive, and differ as much from each other as from the surrounding row houses.

The Central Waterfront is bounded by two important public buildings. On the west end stands the Market House, which today serves as a fire station. Construction of the first floor of the Market House began in 1822, and the upper story was added the following year (Currier 1906:187). This is a tall, two-story structure with a hip roof extending over its nine-bay length. The main facade is ornamented with a three-bay pavillion having a large fan window at its center. The first floor of the Market House served as a market until 1864 when the butchers' stalls were removed and the area was taken over by the Fire Department (Currier 1906:190).

At the eastern boundary of the Central Waterfront is the Custom House, designed by the first American-trained architect, Robert Mills, and built in 1835. The tall, monolithic structure is also only two stories high, and contrasts with all other buildings in Market Square in its form and its granite construction. The imposing monument retains the rectangular lines of a Greek temple in the uncluttered form of neoclassic architecture. A small portico shelters the entrance, while a widow's walk stands on the ridge. The Custom House remained in operation into the first decade of the 20th century, but was

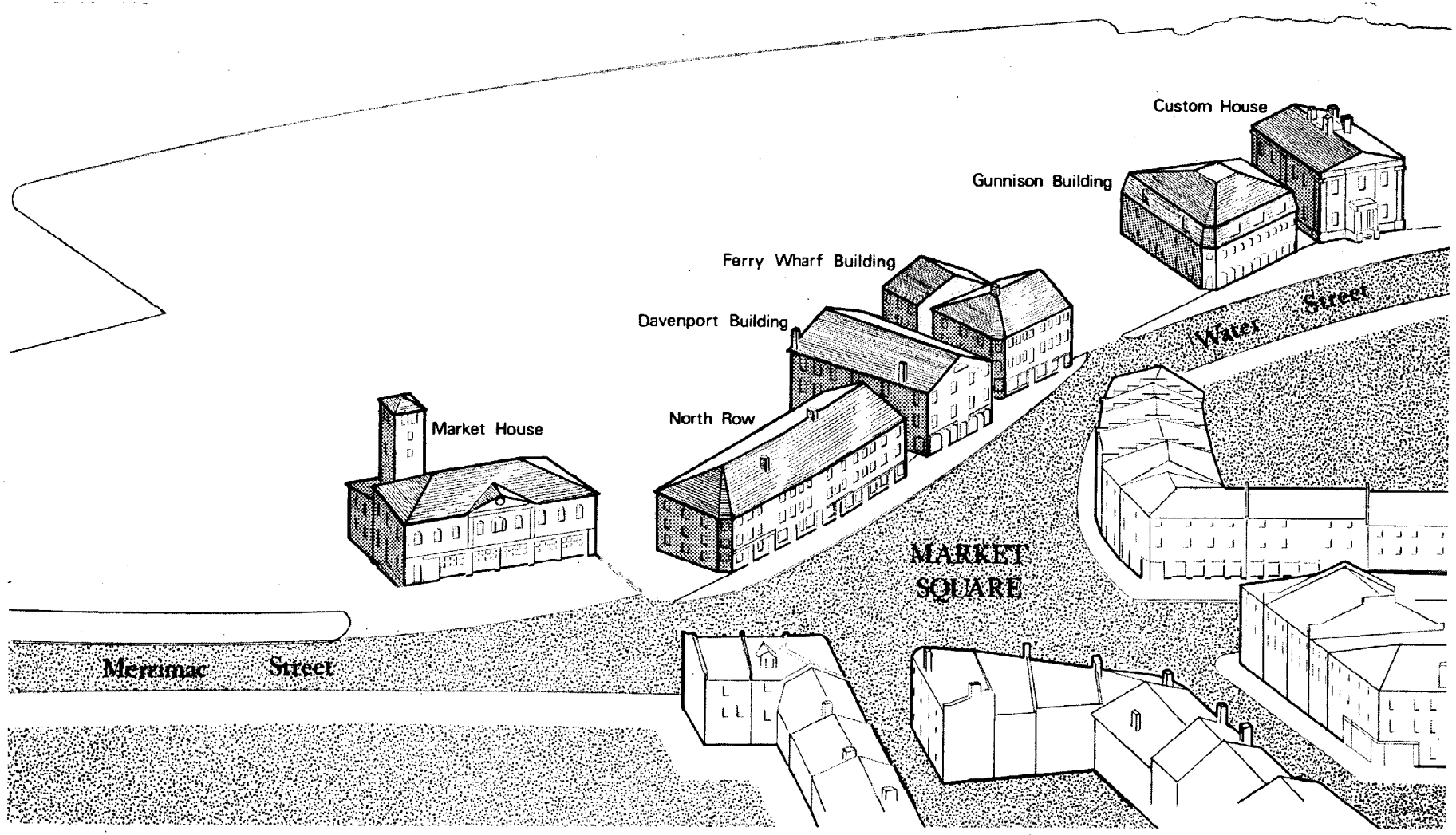


Fig. 1.3. Buildings of Newburyport's Central Waterfront at Market Square, 1977.

taken over for manufacturing and storage thereafter. The recently restored Custom House today houses the Maritime Museum of the Newburyport Maritime Society.

Between these two buildings stand four privately owned brick structures. Adjacent to the Market House is the compact, three-story North Row, the longest row building standing along the Central Waterfront. The eastern three-fifths of North Row was built prior to the 1811 fire, and is one of the earliest remaining structures in Market Square. Unlike the later row houses, North Row has a hip roof, and lacks the characteristic stepped gables of the buildings on the other side of Market Square. The southwestern corner of the building is truncated, a common Federalist technique used to finish brick walls which intersect at an acute angle. In this case, it also provided an entrance to the only basement store known in the project area. This entrance was obliterated when the west end of the building was converted into a gas station (by "Bossy" Gillis, Newburyport's notorious rough-neck mayor). Beyond restoration, this western bay was torn down in the 1960's and rebuilt in 1976 in simulation of the original.

The Davenport Building next door is unusual as it is the only structure having its gable end facing Market Square, and so is oriented parallel to the wharves. This saddle-roofed, three-story structure is divided on the first floor into two separate businesses running the length of the building. A central door and stairwell provides access to the upper stories--a pattern which has its antecedent in pre-fire structures.

The Ferry Wharf Building is actually a recent amalgamation of two structures. The principle component is a three-story hip-roofed building which fronts on Water Street. United with this is a single bay of a three-story saddle-roofed complex, Merchant's Row. Although at one time Merchant's Row was eight stores long, all but this last bay has been razed.

There is today a large open area between the Ferry Wharf Building and the Gunnison Building. Until recently this was occupied by a modern trucking terminal, and previously by a series of coal pockets, coal sheds, scales, and coal yard offices. Apparently no large Federalist structures were ever built on this parcel.

The last of the existing structures is the mansard-roofed Gunnison Building. This is considerably newer than its neighbors, and may have been built as recently as 1847. It was apparently originally designed to replace two previous structures, a blacksmith-machine shop and a grain dealership owned by William Gunnison. Although the upper floors of the building have been gutted by fire at least twice, destroying the slate-covered roof, the building apparently has retained its original external appearance.

The area behind these buildings formerly comprised the central port facilities. Until the 1870's, the waterfront was lined with a series of stone and wooden wharves which jutted into the Merrimack, and were crowded with stores and warehouses. Many of these buildings were removed nearly a century ago when the slips between the wharves were backfilled to make way for a railroad and a coal pocket. Yet several Federalist stores, some built on Colonial foundations, survived into the 1960's. Here they stood side by side with mid-20th century structures: printing plants, welding shops, storage sheds, and a large trucking terminal. In the current redevelopment project, dilapidated Federalist stores and modern cement block buildings alike were razed, and today a parking lot

replaces them. This open area, together with the ways leading to it from Market Square, was the focus of archaeological testing.

Scope of Research

The primary research goal--assessing the archaeological value of subsurface remains at the Central Waterfront--naturally included any prehistoric or proto-historic occupations existing before the development of the port. In view of the considerable ecological advantages afforded by its setting, the Central Waterfront was likely to have hosted a number of camps for aboriginal hunters and gatherers. This general vicinity was also supposed to be the site of a 17th century trader-fisherman's cache known locally as "Watts's Cellar." Our tests were designed to search for these components, and to determine the likelihood of finding these early materials in context, undisturbed by subsequent construction.

Also to be assessed were the historic components of the waterfront, including those which dated before the construction of the existing buildings. For these periods, the archaeological record was supplemented by a number of primary and secondary historical sources. The town records of Newbury and Newburyport, were of great value, as were numerous town histories written from 1826 to 1909. Of key importance were records of the probate court and registry of deeds for Essex county, which contained state inventories and property transfers going back to the early days of settlement. Since 1761, Newburyport has been mapped periodically in varying degrees of detail, often showing structures which we were able to identify in our excavations. Particularly useful were insurance and assessors maps made early in the 20th century. Early photographs of the project area, some dating to the Civil War, were found in collections of the Newburyport Public Library, Essex Institute, and numerous private citizens. An almost continuous succession of local newspapers, dating from 1773, was available on microfilm at the Newburyport Public Library. Here, also, was a nearly complete set of city directories, giving names, addresses, and occupations of Newburyporters from 1849 to 1935.

With these extensive records, it was possible to construct a series of maps showing the growth of the waterfront since first permanent white settlement. Stage by stage, we have attempted to identify contemporaneous structures, their function, and their owners or occupants. Our approach to this problem was holistic; archaeological, demographical, geographical, and other historical data have all contributed to our analysis of the development of the Central Waterfront and its component parts.

For convenience and simplicity, the following material is divided into two sections of narrative. Part I is a discussion of the physical remains--buildings, features, artifacts, and buried land forms--which came to light in excavations conducted in the spring and summer of 1977. Here the structures and features which we uncovered are located on a sequence of maps showing general changes in the landscape as the port developed. The presumed extent of these structures, their accessibility, their general state of preservation, and their immediate significance are discussed in this section. Also described are those assemblages of artifacts which were found in primary, undisturbed contexts. In most cases, these clusters of artifacts can be directly associated with a building and a particular occupation or activity, and therefore are used to characterize certain aspects of life along the waterfront at various periods in its growth.

While Part I concentrates on particular discoveries at individual excavations, Part II is a synthesis, setting off these finds against the detailed historical background of the entire project area. The series of maps introduced in Part I are discussed one by one, outlining changes in the makeup of the waterfront, its buildings, its wharves, and its occupants. To this framework are added many key episodes of social and economic change not immediately apparent from the physical layout of the waterfront, but which are readily discerned from newspaper accounts, census data, and local histories. Finally, this chronology of Newburyport's waterfront development is compared to the history of the port area at a neighboring community.

PART I

EXCAVATION

2. ARCHAEOLOGICAL FIELDWORK

Site Locations

The project contract, following legal stipulations derived from a lawsuit over the development of the waterfront, called for archaeological testing in 11 specific locations. Five test excavations were to be placed behind each of the surviving buildings and the site of the former trucking terminal. The remaining six pits were to be dug in the ways between structures from the Market House to the Custom House. These plans were slightly modified and excavations expanded as historical research revealed the sites of former buildings, and areas of known disturbance (Fig. 2.1). In five cases, it proved impractical to sample the ways between the existing buildings because of the myriad of electrical, water, and gas utilities serving the present structures (Faulkner 1977). Instead, the ways were sampled closer to the waterfront. In most cases, the samples of the ways were fused with the excavations behind the buildings. This not only served the practical expedient of condensing the number of separate excavations in operation at any one time, but also provided a logical link between the ways and the wharves and buildings which they served.

Once the primary areas were tested or accounted for, excavations were expanded and new pits were added to provide a more complete sampling of the project area. Ultimately four major stratigraphic test trenches (T1-T4) were prepared by machine, and six areal excavations (A1-A6) were dug by hand. Associated with the areal excavations were a number of preliminary backhoe trenches dug to locate specific foundations; these are shown in Fig. 2.1 merely to document all areas of archaeological disturbance.

Test Trenches

Backhoe trenches at T1-T4 were dug in order to gain a rapid assessment of wharf construction, to test in areas thought to be slips, and to examine places which might yield evidence of earlier prehistoric or proto-historic occupations. They had in common the fact that they were in areas of loose, unstable sand fill which would have been dangerous and unproductive to excavate by hand. Because they were placed over or adjacent to previous slips, it was not possible to continue these excavations to bedrock. Tidal water, which rapidly invaded these holes, was pumped out where practicable, and the sediments were profiled as far below the low-tide mark as possible. The principal data retrieved were stratigraphic records, reported in detail in Appendix A, p. 209.

The few artifacts recorded for these trenches were taken directly from the profile in stratigraphic context. Because such finds were too few to constitute meaningful assemblages, they were analyzed purely for their chronological value. Pieces of bottles, pipestems, hand forged nails, and similar bits of diagnostic refuse and debris were used to assign broad limiting dates to the associated strata.

Trench 1 -- City Wharf A

Trench 1 consisted of an overlapping three-pit sequence excavated in an attempt to locate the 19th century granite perimeter of the westernmost wharf in the study area, City Wharf. Subsequent interpretation of the stratigraphic

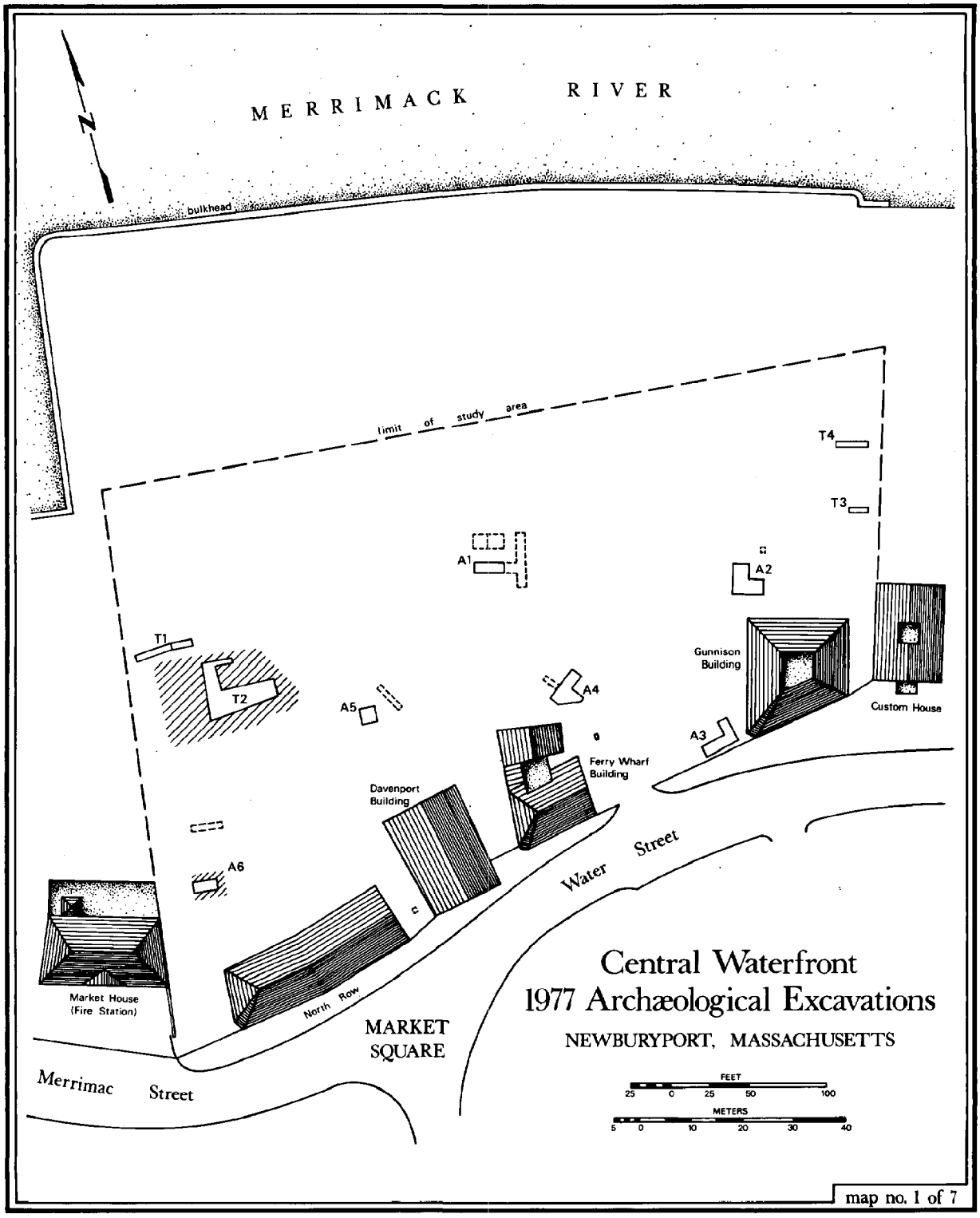


Fig. 2. 1. Central Waterfront excavation sites.

Fig. 2.1. Archaeological Excavations -- Key

Test trenches		Areal excavations	
T1	City Wharf A	A1	Merchant's Row
T2	City Wharf B	A2	Gunnison Annex
T3	Custom House Slip	A3	Granger
T4	Gunnison's Wharf	A4	Watkins
		A5	Furniture Warehouse
		A6	Dole

Note: In the series of five historical maps which follow, these excavations appear in light shading.

profiles revealed that this trench was actually located within the slip behind the Market House, an area which was filled for construction of a railroad in the 1870's. Consequently this trench recorded only the filling of Market Slip, and episodes of construction and demolition which occurred after 1872 when this land surface was first created.

Trench 2 -- City Wharf B

Trench 2 was dug to find the remains of a warehouse owned in 1775 by merchant Benjamin Greenleaf, location of which was given in an early survey (Currier 1906:131). Once identified, this structure was to be excavated by hand. When it became apparent that evidence for the Greenleaf warehouse had been destroyed by subsequent construction, trenching was continued to search for early precursors to City Wharf. A small section of late 18th century pilings were identified, as were the footings for an early 19th century frame warehouse. However, these features had been badly disturbed in railroad construction, and so no further excavation was undertaken at this site.

Trench 3 -- Custom House Slip

Trench 3 was excavated to sample the way past the Custom House. Inspection of the profile, however, revealed that this section cut through the head of the Custom House slip. The profile revealed the record of slip filling in the 1870's and subsequent accumulations of coal, ash, and building demolition debris. This was followed by slag accumulations from an adjacent foundry. In order to get a clearer picture of the slip, the way along the adjacent wharf, and the foundry building, a new trench was excavated further out along the way at T4.

Trench 4 -- Gunnison's Wharf

Trench 4 succeeded in identifying the remains of a wharf thought to have been constructed in the early 19th century. The superstructure of the wharf was apparently razed to the waterline when the adjacent slip was filled. Slag, broken castings, and the footings of a late 19th century foundry building were found on the site of the former wharf. No other remains of the foundry were recovered, as the site was levelled in the second quarter of the 20th century to build a one-story cement block shed for storage of construction equipment.

The areas selected for backhoe trenching produced few sub-surface structures which would be worthy of further exposure, or which would be likely to yield meaningful historic or prehistoric artifact assemblages. In retrospect, the reasons for this dearth of well-preserved information are clear. The wharfside buildings in these areas were predominantly frame structures with no basements, for they were built on reclaimed land, close to the high water mark. These areas were all thoroughly reworked, directly or indirectly, by the construction of the City Railroad in 1872. When such buildings were razed, at best only fragmentary remnants of their footings were preserved.

Although the quality of preservation in these locations was disappointing, each trench yielded primary information useful in keying early maps of the waterfront to identifiable features. They also presented sequences of develop-

ment, demolition, cutting and filling, drainage, and other alterations of the waterfront relevant to the history of land use here during historic periods. These detailed chronologies are presented separately in Appendix A, and contribute to the discussion of changes in the landscape of the Central Waterfront in Chapter 3.

Excavation Procedure

Naturally the most productive sites, those showing significant structural details or undisturbed deposits, were excavated by hand. Generally these sites were located in areas which were former high points on the landscape before wharf expansion and landfilling. Excavations were initially laid out in 3 m by 3 m pits or 2 m by 5 m trenches as called for in contract stipulations, although in most cases they were subsequently expanded. Heavy equipment was used only in the preliminary stages of work to locate foundations, and to remove recent paving and overburden. Otherwise the deposits were dug with trowels or short handled hoes. Backdirt was carefully examined as it was trowelled, for the high fraction of coarse particles in most sediments made sifting impractical.

Having a thorough record of property transfers and descriptions, supplemented by numerous 19th century maps, we were able to locate specific subsurface structures with considerable confidence. Generally it was possible to identify most major structures in the early stages of excavation, and all artifacts were segregated accordingly. Within these broad spatial divisions, associations with other recognizable features such as window openings, foundation and utility trenches, and burned areas, were noted. Horizontal position was also recorded on a one meter grid to provide redundancy in artifact location.

Vertical control of excavated units was established by using both arbitrary and stratigraphic levels. All data were segregated at 20 cm intervals, and individual artifacts were associated with recognizable stratigraphic breaks where possible. Because the deposits often contained large samples of materials which fit together and could be dated, it was usually a simple matter to correlate arbitrary levels with the stratigraphic profiles and sort out the sequence of events which were implied.

In general, then, field recording procedures were geared to allow rapid excavation with small hand tools, using recording precision and resolution appropriate for such a large, urban site. For certain unusual or diagnostic finds such as coins or projectile points, however, special care was taken to record elevations and horizontal coordinates to the nearest centimeter. The materials were then photographed *in situ* to establish positively the stratigraphic position and physical association of these artifacts.

Stratigraphic Records

These few probes made into the sub-surface history of the Central Waterfront, are but tiny windows looking into the complex succession of scenes of of its past. A primary objective was to identify these events and place them in order. Careful recording of stratigraphic succession then was of great importance.

In Newburyport's brief history, natural agencies have had comparatively little effect on the landscape, and the sediments encountered in excavating the Central Waterfront were almost all deposited by man. Since first settlement, the value of this waterfront property has been recognized, and the land has been used intensely. By 1810 buildings were constructed here cheek by jowl on the ruins of their predecessors. The resulting accumulations are so rich in cultural debris that even the absence of artifacts in a particular stratum is significant, representing not the abandonment of a site, but the preparation of a new building or working surface.

The sequence of deposition here, as a result of the intensity of land use, is complex. The stratigraphic record is not generally a regular accumulation of trash from period after period, with sediments superimposed one on top of another like the layers of a cake. Profiles from the Central Waterfront, like those taken from many other urban sites, show repeated episodes of disturbance: intrusions, backdirt accumulations, and stratigraphic inversions. In a few locations, as much as 80% of the sediments proved to have been reworked or redeposited. The problem in interpretating stratigraphy was not just separating primary deposits from redeposited fill, but often required demonstrating how these sediments were reworked and when.

The difficulty of this task is lessened somewhat by the abundance of clues appearing in these strata. These clues were recorded for each test trench and areal excavation wall using conventions adapted from soil morphology. Color and texture were important criteria for identifying the parent materials in which artifacts were imbedded. Degree of mottling suggested the effects of disturbance or alternate wetting and drying of the profile. Sediment contents, such as coal, slag, shell, cobbles, and others help to earmark individual deposits and suggest their origin. Such profile details, together with other relevant documentation, appear in Appendix A. These data form the basis interpreting the development of the land surface in Chapter 3.

Artifacts, Assemblages and Local Chronology

For the purpose of cataloging field data, "artifacts" were considered to be specimens, whether whole or fragmentary, which presented useful information regarding their age, mode of manufacture, function, or place of origin. Specifically excluded from individual cataloging were cut nails, window glass, and other mass produced construction materials which were pooled together by level and provenience. Also excluded were common bricks, coal, shell, ash, etc. which were described in profile analysis.

Although some prehistoric remains were discovered here, by far the majority of artifacts discovered at the Central Waterfront were from historic periods. Of this historic refuse, ceramics and bottle glass dominated the artifact inventory. In laboratory analysis, emphasis was placed on reconstructing glass and ceramic specimens and noting the distribution of the component parts. In several instances, levels were identified which contained numerous matching pieces from which artifacts could be reassembled. In these cases, particularly when the fragments were large, it was presumed that the artifacts belonged to primary deposits or deposits which had undergone minimal disturbance. When the fragments showed marked vertical displacement, it was assumed that they reflected an episode of rapid filling. On the other hand, heterogenous, fragmentary artifacts, widely displaced in date of manufacture, were taken to represent

secondary deposits. Using these principles, it was possible to isolate meaningful assemblages of interrelated artifacts from aggregates of specimens whose origin and association were uncertain. The contents of 18th century privy, refuse from a 19th century boarding house, and the tools and supplies of an early 20th century sailmaker are among the assemblages discussed in detail in the following two chapters.

Artifacts from redeposited fill, except for prehistoric items, were too many to be covered adequately and profitably in this account. Historic items from secondary deposits were generally used in early stages of analysis to supplement other data sources. They proved to be particularly useful in distinguishing residential, commercial, and industrial properties, and in giving broad, limiting dates for construction of foundations, installation of drains, and episodes of paving and landfilling.

There remain in the Newburyport collections, now housed in the Custom House Maritime Museum, large samples of clay pipestems, bottle glass, ceramics, bone refuse, and building materials. Naturally all of these materials could be analyzed further, and could contribute information on various subjects of historical interest. Here, however, we have confined our analysis to questions directly concerned with the structures and occupants of the Central Waterfront.

Most diagnostic artifacts retrieved were coins, bottles, glassware, pipestems, and other items whose origins are well understood and for which numerous reference works have been published. Generally, manufactured items from the Colonial Period were imported from Great Britain and can easily be traced and dated. Later, locally produced items may often be ordered by the rapid technological changes in manufacturing. In these excavations, however, there were also a few unusual dating considerations which reflect local history and deserve special note.

Fortunately, some of the history of Newburyport's local potters has survived. A noted ceramics expert, Lura Woodside Watkins, excavated a pottery waster site on High Street in 1934. Although this was a salvage project brought about by highway construction, Watkins (1950:46) was able to recover a representative sample of ceramics produced there by Daniel Bayley and his sons between 1763 and 1799. Eventually, with information from another site, she was able to record the works of three generations of the Bayley potters, spanning the period 1723 to 1799.

Many of the ceramics produced by the Bayleys are unidentifiable. The red earthenware milk pans, lard pots, jugs, and other undecorated work-a-day objects are indistinguishable from the products of dozens of other American potters. Nevertheless, the slip decoration on certain chamber pots, the color of glazes, and the forms of mugs and bowls seem to reflect some individuality of the makers. While the Bayley products are not so distinctive that their works can be positively identified, numerous examples have been found of specimens which strongly resemble those specimens collected by Lura Watkins (Fig. 2.2). The Bayleys frequently used a nearly black, mahogany glaze as well as a brown dipped or streaked glaze, similar to those represented here. Bayley-like ceramics were commonly found in the trash of the Hale-Watkins household unearthed in Area 4, which is presented in Chapter 4.

Another important local industry was the manufacture of nails. The first manufacture of cut nails is placed by most authorities at the close of the 18th century (e.g. Noel Hume 1970:253), suggesting an approximate limit to the antiquity of any structure incorporating them. In Newburyport the introduction of machine cut and headed nails is well understood, for it was here in 1795 that Joseph Perkins was granted a patent for the first machine in America to cut and head nails in a single operation (Currier 1902:298). An account of Perkins' first "Nail Manufactory" appeared that year in a local newpaper:

> The Cutting-Engine (ten of which may be attended by one boy) will turn out 16,000 brads in an hour completely headed.
> The Slitting Machine will cut Iron sufficient for 1,100,000 Brads in twelve hours--And the Machine for heading nails, by the attention of one boy only, will head 6000 in an hour.
> The nails have been used and approved of by Carpenters, who find them equal to wrought Nails.
> Mr. Perkins has procured a Patent for the exclusive right of this valuable Improvement (Impartial Herald: May 26, 1795).

Mr. Perkins established a thriving business at the site of a former woolen mill in nearby Amesbury, Massachusetts in 1796.

The conversion to machine cut nails was not made overnight, for in the probate of the estate of Joseph Plummer, merchant, there is the following listing:

... 243 1/2 wt Cut Nails	$25.97
14 1/2 m Wrt Nails	$23.22 ... (ECPC 50432).

Note that the wrought nails were counted individually and listed by the thousand ("m"), whereas the mass-produced cut nails were listed by the pound ("wt"). Undoubtedly far fewer wrought nails were sold than cut nails, but they were still used for mounting hardware. Notwithstanding the carpenters' approval of the new nails mentioned above, they were generally too brittle to be successfully clinched. Wrought nails were probably not completely abandoned in construction until it became fashionable to fasten door hardware and similar fittings with screws. This may not have occurred until the 1820's or even later. The presence or absence of cut nails was noted in dating the period of construction of all structures revealed in areal excavation.

A particularly unusual and misleading local assemblage appeared in the fill of a cellar hole in Area 4 (Fig. 2.3). One item was initially misidentified as a "rectangular lead seal", another as a "stove ornament", and a third as a "metal label." Still other fragments were not recognized as artifacts at all, and appeared in level bags of "miscellaneous metal". All of these items were of an alloy of lead, and bore fragmentary hand or machine engraved inscriptions.

The first clue came from a piece which upon cleaning revealed the inscription "...yrs 4 mos...." Attention then turned to another specimen, thought at that time to represent a fragment from a stove made by the "Horton" company, or some such manufacturing firm. It was then obvious that instead this was a label of some kind, belonging to a person named Horton. Fragments assembled later showed this to be a casket plate of one Joseph T. Horton.

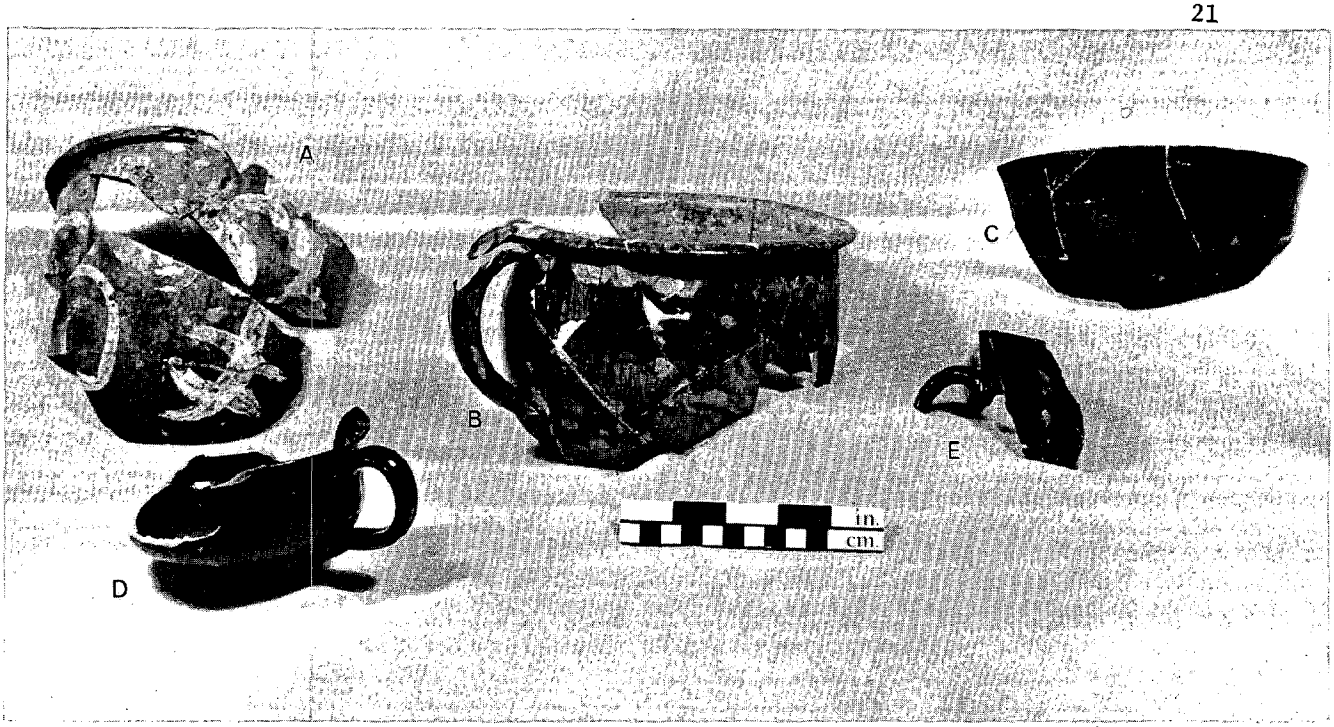


Fig. 2.2. Bayley-like earthenware: A, Cream-on-brown slip-decorated chamber pot; B, brown glaze-dipped chamber pot; C, fine mahogany glazed bowl; D, brown glazed porringer; E, tall mahogany glazed mug fragment. Specimens A-C were found in the 18th century Hale-Watkins household trash, immediately outside a privy in Area 4; D came directly from the privy. Specimen E came from redeposited 18th century fill at Area 3.

Fig. 2.3. Lead alloy casket plates and sinker from boardinghouse cellar fill, Area 4.

At this point, identifying Mr. Horton was a simple matter. City records show that Joseph Torrey Horton died at the Home for Aged Men on June 6, 1925, of chronic heart disease at the age of 77. Further research into his background in the city directories revealed that in 1866 at age 19 he was a hosteler, and that after a long absence from Newburyport he returned to become a clerk at the famous Wolfe Tavern. By 1906 he was running Horton Home, the family-run almshouse, Newburyport's "poor farm". There was no evidence, however, to connect Mr. Horton with the study area.

Three other casket plates turned up in the artifact assemblage, and it appeared that they all had in common the fact that their inscriptions had been intentionally defaced, as if to obliterate some engraving error. In interviewing a local undertaker, the son of the man who buried Mr. Horton, we were assured that there was no engraver at that time in our study area, and at this time casket plates were engraved by a jeweler named Lunt, a few blocks away on State Street. Lunt, too, apparently had no direct connection with the study area.

The most probable explanation for the presence of these items is that together with some associated pieces of lead flashing, they represent salvaged scrap, perhaps derived from a junk dealer then occupying Merchant's Row, an adjacent building. Interestingly, two lead fishing sinkers were found with these materials, both showing impurities which suggest that they were products of this salvage. Whatever their source, the casket plates proved to be part of a 20th century fill, deposited in the cellar hole of a boarding house shortly after its demolition. The most recent inscription indicates that this demolition occurred after 1927.

Areal Excavations: General Findings

Areal excavations generally provided one or more of three basic types of information. Like the test trenches, some presented sequences of landscape development. Others offered specific details of building construction and function. Also recovered were several recognizable assemblages of artifacts, most of which could be associated with particular activities on the waterfront. The essential findings are listed below only to characterize the archaeological potential of each area. The following two chapters show the results in greater detail, and in spatial and temporal perspective.

Area 1 -- Merchant's Row

In Area 1, a 2 m by 6 m trench was positioned to straddle the western side of the foundation of Merchant's Row. This was a long complex of brick stores, some of which may have been constructed prior to 1773. These buildings extended along Ferry Wharf, where ferry service connected Newburyport to Salisbury, on the opposite side of the Merrimack. As this section of Merchant's Row was torn down only recently, the foundation and a long abandoned basement were undisturbed. Excavation revealed many construction details of the Merchant's Row complex, particularly early attempts at waterproofing the basement storage area. Also noted was clear evidence for partial destruction of this building in the fire of 1811, and its subsequent rebuilding. It is significant that Merchant's Row grew to become one of the most substantial wharfside buildings

on the waterfront during the period of Federalist prosperity, and that today no such waterfront structures survive in Newburyport.

The westernmost segment of the Merchant's Row trench included a 2 m by 2 m portion of the public way leading to the ferry landing. Here, all in situ discoveries of aboriginal materials were made. These were flaked stone projectile points and bifaces. Unfortunately, all of these artifacts were found in areas of historic disturbance. Discussion of the aboriginal components represented is reserved for Chapter 5. In sum, 327 artifacts were catalogued for Area 1, most of them coming from the ferry way. As this way was the site of two foundation trenches and a utility trench, it was impossible to isolate meaningful primary assemblages from these deposits.

In the process of excavation, bedrock was encountered both within Merchant's Row and along the ferry way. This proved to be a section of bedrock ledge which was formerly a high point on the landscape. Subsequent analysis of property records indicated that this was the point of land on which the first wharf and warehouse were built in 1655.

Area 2 -- Gunnison Annex and Way

The excavation at Area 2, like that of Area 1, was positioned to sample a portion of a known structure and an adjacent way. The building in this case was a former annex to the William Gunnison Building, built in the 1840's. The associated way gave private access to the Gunnison Building, Gunnison's Wharf, and a lumber and coal yard immediately to the west. A 3 m by 6 m trench was placed along the way, while an adjoining 3 m square was dug within the annex, forming a L-shaped excavation. In all, 570 artifacts were retrieved, 407 of which were found in the way, and 163 in the annex.

Excavations of the annex revealed that the small basement of this structure was preserved intact, and was built at the same time as the Gunnison Building. The fieldstone footing of the north wall was tentatively identified as an isolated remnant from an 18th century outbuilding of which little is known. Sandwiched between this outside wall and an interior partition was a coal bin. Few artifacts were recoverd from this basement, but heavy rust stains and iron scraps were found in deposits within and immediately outside the annex. This debris apparently derived from the building's use in the third quarter of the 19th century first as a blacksmith shop, and then later as a machine shop. Remodelling early in the 20th century included installation of a wide door facing the way. Accumulations immediately outside this door suggest that the annex was then used successively as a stable and as an automobile garage.

In Gunnison's way, the bedrock ledge was uncovered similar to that found at Merchant's Row, Area 1. Though deep enough to provide a shallow basement for the annex, this ridge of rock rose to within 25 cm of the surface in the way. The overlying sediments were predominantly mid-19th century gravel pavements mixed with coal dust from the coal pockets next door. Intruding into these former road surfaces were water, gas and fuel utilities, some dating to ca. 1885.

The Gunnison excavations, like the trenches 3 and 4, show some evidence for Newburyport's industrial development. In the 19th century, these areas of

foundry work, machining, and similar fabrication were concentrated in the area east of Ferry Wharf. Some reasons for this pattern of land use will become apparent in Chapter 3.

Area 3 -- Granger

The Granger excavation, placed along Water Street just west of the Gunnison Building, provided further information about 19th century industrial development in this portion of the waterfront. It sampled the southern end of the same way exposed in Area 2, as well as the 19th century lumber yard and coal pocket facilities immediately to the west. Two 2 m by 5 m trenches were laid out in an "L" configuration. Remnants of four separate structures were recovered here, as were some 404 artifacts. The same rock ledge which extends into Area 2 was exposed throughout this excavation at depths from 0.3 m to 1.6 m.

The choice of excavation sites was fortuitous, for here were exposed the isolated remnants of three structures which have otherwise been obliterated by consecutive episodes of construction. Earliest was the corner of an 18th century residence, apparently burned in the fire of 1811 and subsequently scavanged for building stone. At the time of the fire, this was one of several properties owned by one Offin Boardman, a local Revolutionary War hero. The redeposited 18th century fill which covered the remains of this structure, contained not only household ceramics and glass, but also scattered evidence for early crafts and industries apparently carried on in this neighborhood.

The next surviving structure was a weigh scale, apparently built partially within the private way to the waterfront. This scale may have served the lumber yard owned by George Granger in 1850, as well as the coal pockets which succeeded this business shortly thereafter. All that survives today is the complete eastern wall of this structure.

Immediately to the west of the scale was exposed the corner of an adjacent one-story brick coal office, built ca. 1872. This is known from maps and photographs to have been the most recent of at least three such structures associated with the scales. Here, however, the depth to bedrock was less than 30 cm, and no evidence for earlier footings or foundations was recovered. Construction of the huge Graf Bros. trucking terminal in 1949 destroyed all but these few remnants of the coal office and scale, and undoubtedly destroyed the remains of other residences and outbuildings which once stood in this vicinity.

The Granger excavations have nearly exhausted the archaeological potential of the immediate surroundings, because these shallow deposits were confined on three sides by areas of comparatively recent disturbance. Utility trenches flanked the way and Water Street, while the concrete footings of the truck terminal intruded on the north side. Only to the west, where bedrock was as shallow as 30 cm, could there be future testing.

Area 4 -- Watkins

The Watkins site was selected to sample a small enclosed area where Merchant's Row, the Ferry Wharf Building, and a frame boarding house once stood back-to-back. This, it was thought, would be a prime area of rubbish accumulation. The deeply stratified sediments encountered here were excavated to a

depth of 2.4 m, yielding well-preserved remnants of five structures. Associated with some of these structures were significant artifact assemblages. Ultimately 2773 artifacts were recorded at this excavation, more than 60 percent of the total number of artifacts recovered from all sites on the Central Waterfront.

Although a shallow wedge-shaped area was dug to define the boarding house foundation, the major section of excavation was a 2 m by 7 m trench which extended diagonally across the opening between the boarding house and Merchant's Row. At a depth of 2.4 m, well below the current water table, the trench intercepted sediments from a cove which extended into this area at the time of colonization. Immediately above, in later fill, was a wooden framed privy containing a substantial assemblage of glassware and china. This was attributed to the household of Dr. Nathan Hale and Elizabeth Hale Watkins, and dates between 1745 and 1780. Details of this remarkable assemblage are presented in Chapter 4.

Although the granite footings of a small outbuilding were discovered above the privy, most of this structure was disturbed by the subsequent excavation of the boarding house cellar, and little could be learned of this structure. The fieldstone foundation of the boarding house, however, was well preserved and its construction was dated within the period 1851 to 1859. Trash which could be attributed to the occupants of the boarding house filled the alley between this building and Merchant's Row. This assemblage and the earlier privy contents show significant changes in residential life on the waterfront, also seen in Chapter 4.

The other side of the alley showed additional details of the construction of Merchant's Row. An original basement entrance, for example, extended some 1.3 m below the present land surface, indicating the degree of refuse accumulation over the past two centuries. As in Area 1, evidence for the fire of 1811 was noted, after which the brick complex was expanded by two more bays.

The upper levels of fill in the boarding house cellar hole contained items derived from the demolition of a portion of Merchant's Row. Included was a significant assemblage of supplies and stencils from sail makers who occupied the third floor lofts. The history of Merchant's Row and the sail maker's assemblage is discussed in detail in Chapter 3. Also found in this refuse was the curious collection of scrap casket plates mentioned earlier, which dated the demolition of the boarding house after 1927.

The Watkins trench has proved to be the most productive and informative of all waterfront excavations. It is apparent that the foundations of Merchant's Row are preserved intact, and could be excavated in their entirety in the future. Also the deep 18th century deposits are well protected, and show promise for future testing. In particular, the Hale-Watkins privy, less than 30 percent of which has been sampled, remains to be completely excavated. Remnants of the Hale-Watkins residence might also be found.

Area 5 -- Furniture Warehouse

As in Area 4, the Furniture Warehouse pit sampled an open area behind buildings where trash related to these structures could be expected to accumulate. A 3 m by 3 m square was placed between foundations of a four-story

Federalist brick store complex and a three-story frame warehouse, both of which had been razed within the last decade. Only 317 artifacts were recovered, some in apparent stratigraphic succession, spanning the period 1780 to 1900. Yet the space between buildings was too narrow to work in effectively and sort out meaningful assemblages. The pit also proved to be directly in the path of surface runoff from Market Square and State Street. In one storm, water rose approximately 50 cm above the top of the excavation, flooding the adjacent parking area (Faulkner 1977).

The pit location was unfortunate in other respects as well. The exposed portion of the Furniture Warehouse foundation was dominated by a 20th century concrete and brick footing for an elevator drive mechanism. Unfortunately, little else was recovered of this structure. The basement of the adjacent Federalist store complex was preserved intact, and was identified as part of the Abner Wood Building, constructed ca. 1810. However, the foundation was filled to the brim with large boulders. Evidence of granite rubble in the alley suggests that this foundation intrudes into, or was built upon, the ballast of an 18th century wharf.

Although structures appear to be well preserved in Area 5, they are not readily accessible or particularly productive. The comparable remains of Merchant's Row, revealed in Areas 1 and 4, show much greater archaeological potential.

Area 6 -- Dole

When tests at Trench 2 failed to locate the warehouse of Benjamin Greenleaf, a trench was begun in Area 6, an alternative site located further inland along the same wharf sequence. This excavation was named for Richard Dole, who was the first to build a wharf and dock in this area shortly after 1678. An east-west trench measuring 2 m by 5 m was positioned to test for structures which may have stood near the head of Market Slip. The lowest levels produced wood chips and shavings from the Middle Ship Yard, where privateers were constructed and outfitted during the Revolutionary War. Also recovered were very fragmentary remnants of two episodes of wharf construction. Transecting the excavation were five drains leading into Market Slip, two of which were wooden troughs dating to the early 19th century.

In spite of a leak in a recent concrete storm sewer which backed up at high tide, excavation extended well below the water table into former slip sediments. In all, 323 artifacts were retrieved from the trench, although the numerous episodes of cutting and filling made it impossible to isolate any primary deposits. The Dole excavation was helpful in characterizing the Market Landing; however, it is unlikely that further excavation here would reveal substantial structural remains or significant artifact assemblages.

3. CHANGING PANORAMAS

If Captain Paul White were alive today, he would be hard pressed to locate the point of land which the town of Newbury granted to him more than 300 years ago as a site for a warehouse and wharf. As a contemporary of Captain White remembered this property, it contained:

> ...a half and acre of Land Laid out at ye point of Rocks Near Watts his Cellar in Newbury now known by ye name of Captain Whites warehouse point... by ye Great Rock & Gutter & River so to take in ye whole point of rocks & ye Cove therein ... where ye said Captain White had his Dock (ECRD 23:110).

The point of rocks, the gutter, the cove, the dock and the enigmatic Watts's Cellar vanished long ago under wharves, homes, warehouses, stores, coal pockets and railroad embankments. These structures too have been razed in their turn. Today the landscape around the former waterfront is essentially featureless, save for a few large heaps of demolition rubble which even now are being removed to make way for a parking lot.

Surely more has happened in the course of the past three centuries to alter the character of this land than in several previous millenia. Yet drastic as these changes were, Newburyport's history and archaeology are sufficiently well understood to permit a remarkably complete reconstruction. It was a tedious, but relatively straightforward task to piece together the physical appearance of the waterfront at representative stages in its growth.

Recharting the Central Waterfront

Mapping the waterfront throughout its historical development required information from a variety of sources. For periods between 1655 and 1850, the major pieces of this puzzle were provided by title traces of all properties in the project area. In addition to recording the area and dimensions of parcels, deeds and probate records often enumerated and described associated buildings and wharves. Occasionally, when a property underwent a complex subdivision, accurate surveys of the parcel and adjacent properties were included in the land description. Modern property lines commonly include distinctive vestiges of early boundaries, and it was possible to key early surveys to a recent base map of the waterfront. Ultimately, reasonably accurate property boundaries were constructed, extending back to the original land grants.

After 1851, when Newburyport had become a city, detailed maps were made of the port (see map listing in References, p. 253). These maps varied in quality, but most showed individual buildings and wharves, and in some cases the owner of a building or its function was indicated. The earliest plans were rather schematic, but many details could be recognized on later, more accurate surveys, and the positions of nearby features interpolated.

Business addresses and descriptions were indicated in newspaper accounts and advertisements dating from the mid-18th century. One particularly useful account was a list of property destroyed in the 1811 fire, compiled immediately thereafter for a local newspaper (Gilman and Gilman 1811). This inventory included a complete list of buildings damaged or destroyed on the waterfront, and

was invaluable in reconstructing the port facilities as they existed at the height of mercantile prosperity.

Although the waterfront and Market Square in the second half of the 19th century were not particularly picturesque, they were common subjects of many photographers. The surviving collections document well the sequence of construction during Newburyport's industrial expansion. No clearer record exists of the waterfront structures of this period, and no other representation makes the changing atmosphere more familiar.

Ultimately the mapping effort both guided and was guided by archaeological excavation. The final plans, which will be reviewed singly in later chapters, are presented in sequence below to illustrate the excavation results in context (Figs. 3.1-3.5). They show, in addition to historical findings, the changes in the configuration of the landscape which have been discovered or verified by first-hand observation of archaeological remains.

The mapping intervals were selected to represent peaks of physical development between episodes of widespread reconstruction. The map of 1700, for example, represents the first known structures in the project area two decades after all the harborside properties had been granted by the town of Newbury to merchant developers. The 1770 map then shows the newly autonomous Newburyport at the height of Colonial prosperity, when the town had proven successful both in shipbuilding and West India trade. The port at 1810 shows the expanded commercial facilities at the culmination of Federalist prosperity, and immediately before the devastating fire of 1811. In 1850, Newburyport was becoming a city, and the wharf facilities had reached their maximum development. The map reveals all the permanent buildings constructed under the post-fire building code, but little of the industrial reorganization which soon transfigured the waterfront. The 1900 plans show the completed effects of industrialization when the former wharves and many warehouses were obliterated by railroad and coal pocket construction.

The place names given in this map sequence follow contemporary usage for the time represented, and are intended to sort out the complex history of names used for essentially the same structure. For example, Brown's and March's Wharf, Greenleaf's Wharf, Tracy's Wharf, and Hale's Wharf all are forerunners of City Wharf, which bordered the public landing at the western end of the study area. Dotted lines are used to indicate that the size or precise location of a structure was uncertain. The configuration of many such features were adapted from better known examples in Newburyport.

The First Land Grants

The Central Waterfront was originally granted to three merchants in four separate parcels (Fig. 3.1). First, of course, was the parcel given to Captain White in 1655, which was located in the center of the project area. To the west of White's Grant were two parcels presented to Richard Dole, the first in 1675 and the second in 1678 (Coffin 1845:116, 120). A subsequent grant was made to Nathaniel Clark in 1680 to the east of White's property (Currier 1896:157). The lands of Captain White and his neighbors were all located at the break in topography where the gently rolling uplands adjoined the tidal flats. This lowland was interrupted by projections of bedrock extending into the Merrimack River, breaking the shoreline into coves. Springs, following the contours of the bed-

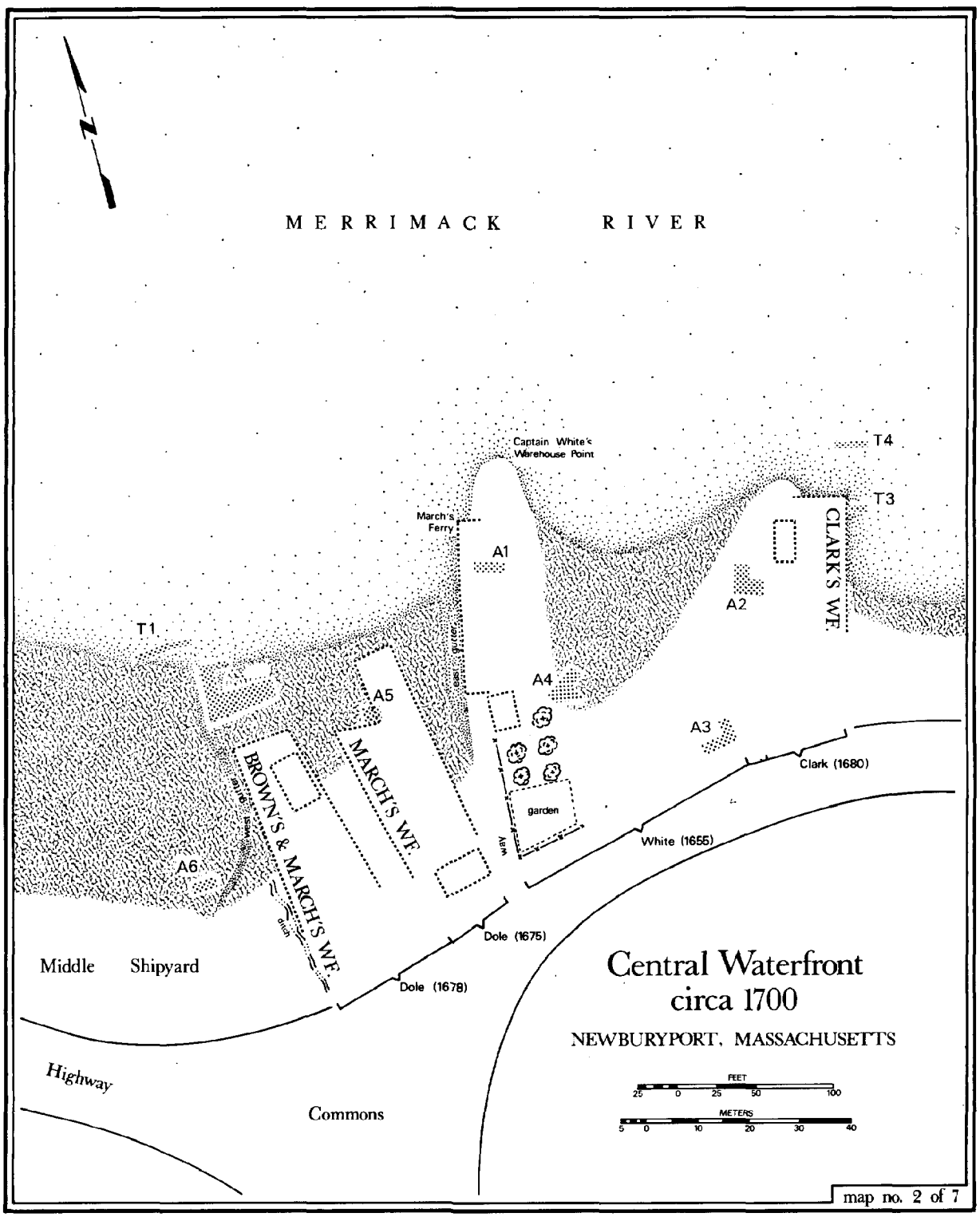


Fig. 3.1. Central Waterfront, ca. 1700.

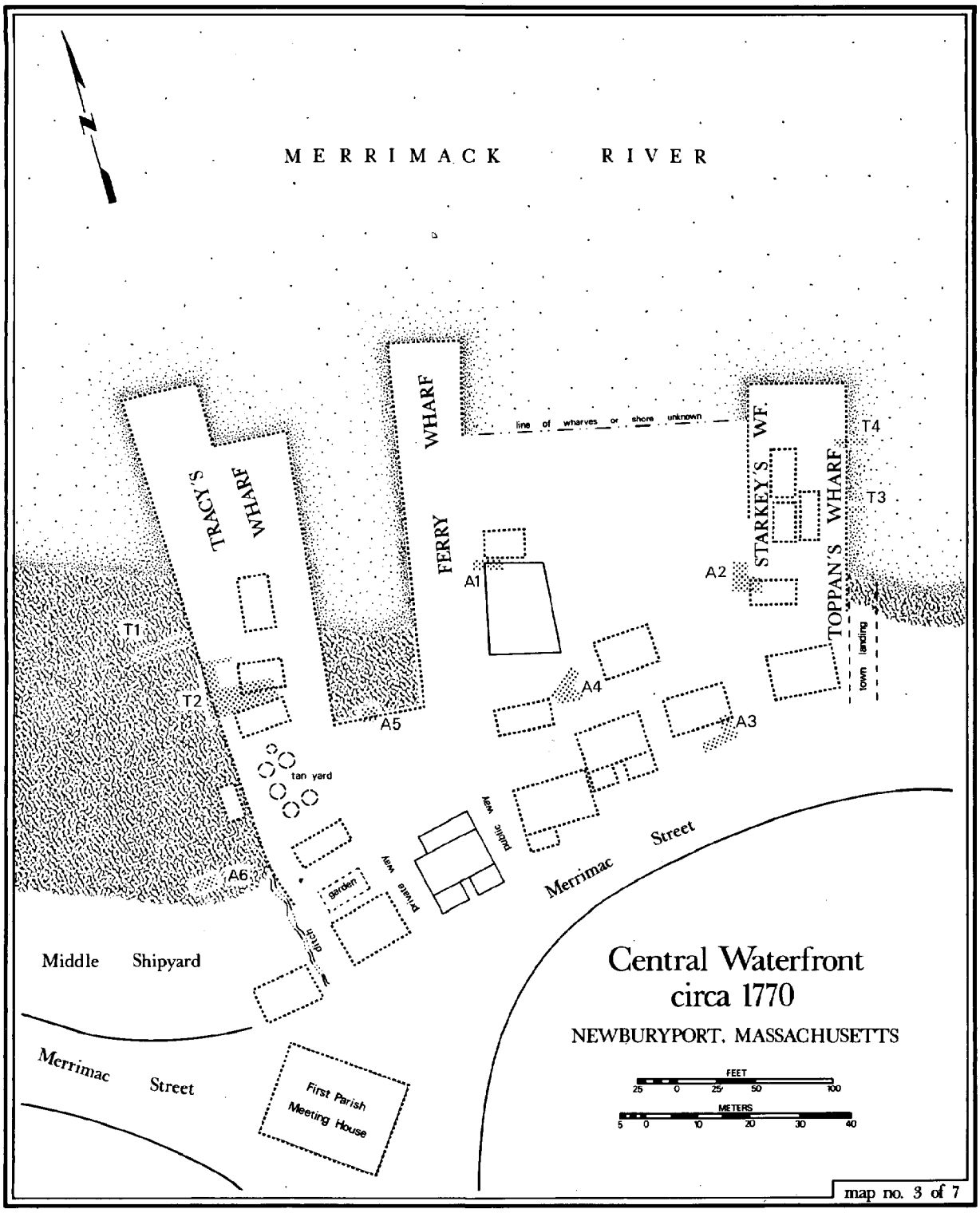


Fig. 3.2. Central Waterfront, ca. 1770.

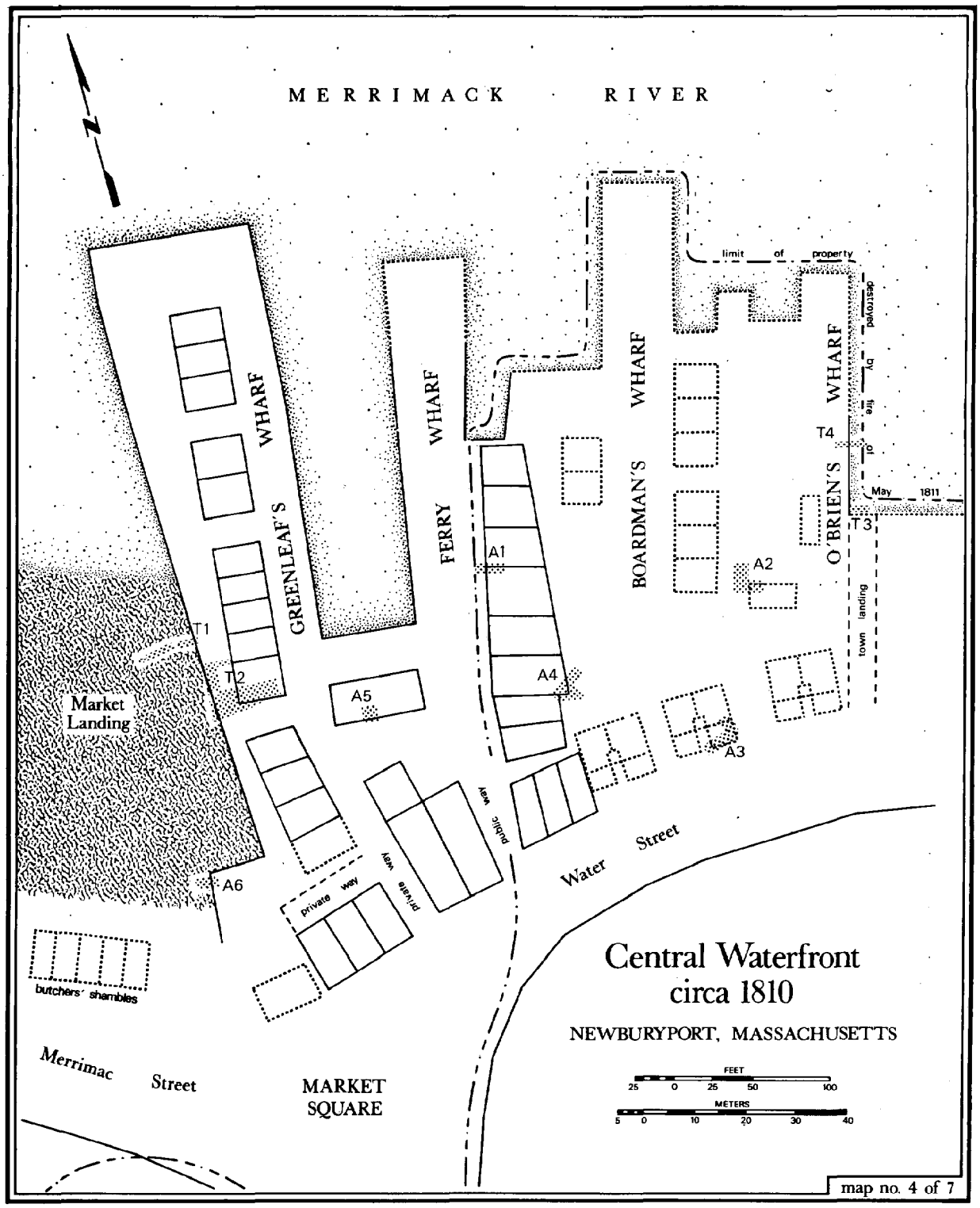


Fig. 3.3. Central Waterfront, ca. 1810.

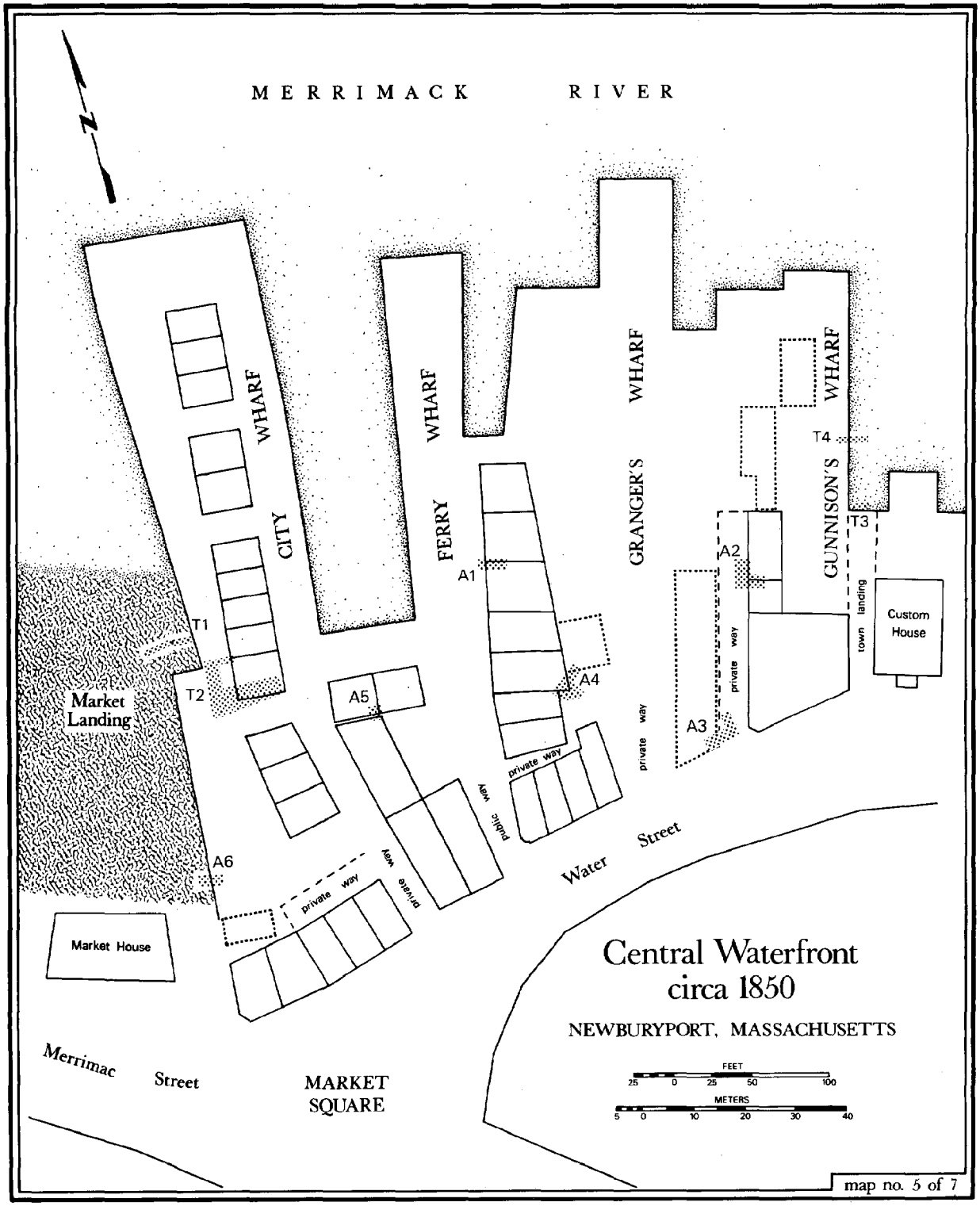


Fig. 3.4. Central Waterfront, ca. 1850.

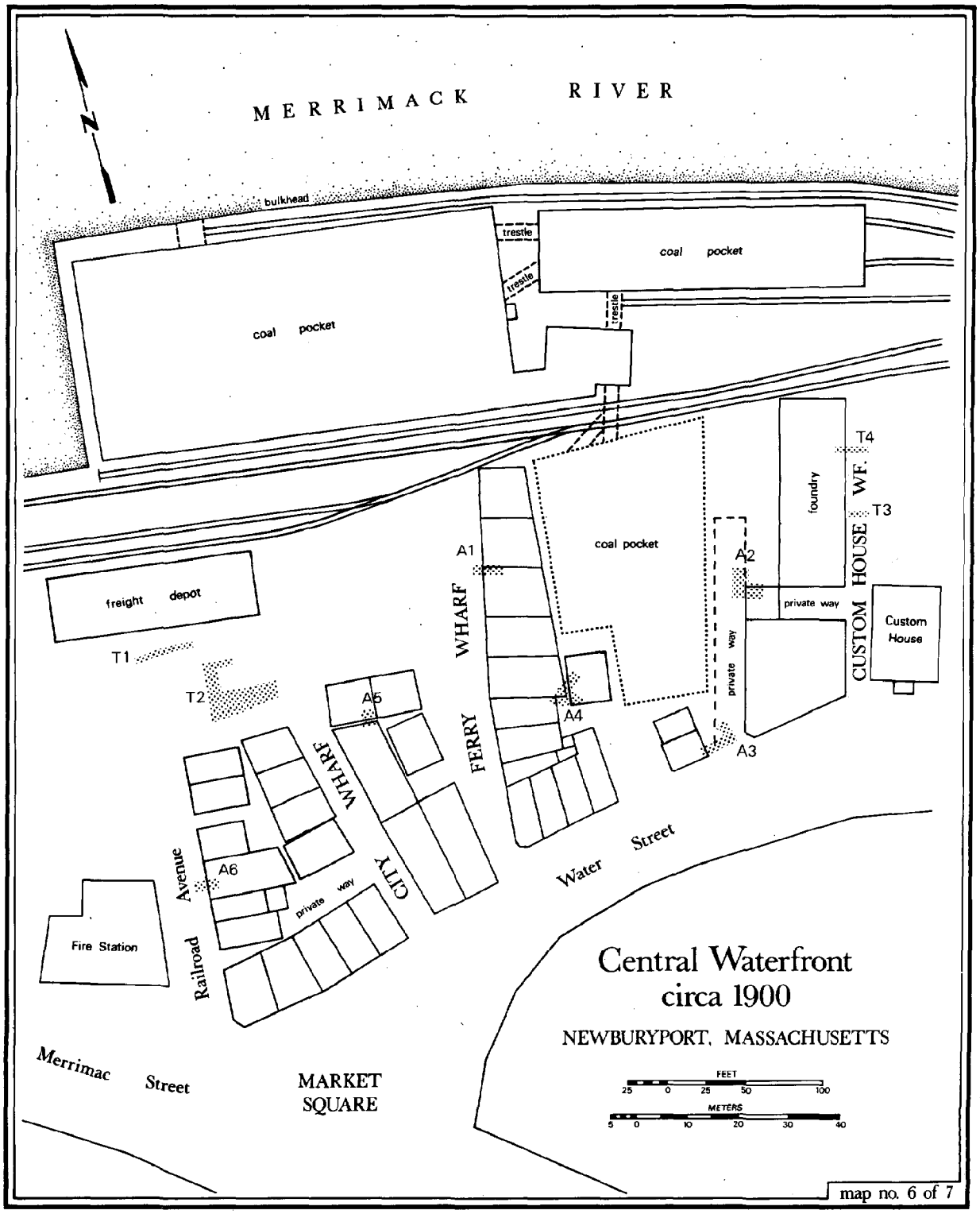


Fig. 3.5. Central Waterfront, ca. 1900.

rock, joined to form at least two tidal rivulets or "gutters." These ran along the extreme east and west boundaries of the Dole property on either side of a natural promontory. It was apparently on such natural projections, where access to the deep water of the Merrimack was most direct, that Dole, White, and Clark built the first wharves and warehouses.

A bedrock ledge fitting the property descriptions of Captain White's Warehouse point was revealed in excavating the public way of Merchant's Row (Area 1). The "Great Rock" here rose to within 1.1 m of the modern land surface, running nearly perpendicular to the south bank of the river. Evidently Captain White was not the first to occupy this former promontory, for here were found relics of aboriginal settlement. These were the only prehistoric artifacts we were to unearth: three Late Archaic projectile points and two small bifacial knives. Unfortunately, all of these stone tools were found in backfill from three separate episodes of 19th century construction. Because all specimens were found within a 2 m square area, it is likely that they were derived from a single source, and were originally deposited near this site. The styles of the projectile points suggest that they were left here as early as 3500 B.C. What little is known of these tools and the people who used them is reviewed in Chapter 5.

The original grant to Paul White mentions a second "Great Rock" as his eastern boundary, a promontory which eventually went to Nathanial Clark. According to Coffin (1845:61), this landmark "... stood where George Granger's store now stands, and was at least twenty feet high." Although the height of the rock may have been exaggerated, the location of this feature corresponds directly to that of the Granger excavation (Area 3). This pit did indeed encounter a bedrock ledge within 30 cm of the surface, which, like Warehouse Point, extended at approximately a right angle to the river. This same outcropping was encountered twice more, in the Gunnison excavation (Area 2) and its associated test pit. Together, the first and second Great Rocks were probably the only major rock exposures in the study area at the time of historic contact.

Colonial and Federalist Landfilling

The most obvious changes in the topography of the harborside were caused by filling. In the Colonial and Federalist periods, this was partially the by-product of wharf construction, building demolition, and refuse disposal. Certain areas, however, appear to have been intentionally filled to provide more real estate as waterfront property became more valuable.

One of the first areas to be reclaimed was the cove lying immediately to the east of Captain White's Warehouse Point (Fig. 3.1). The original cove bottom appeared in Area 4 as alternate layers of sterile muck and gravel, 2.4 m below the modern surface. The muck was composed of bands of twigs and decomposed organic matter, and showed a definite slope toward the Merrimack River.

A subsequent accumulation suggests that the excavation site was very close to the shoreline, and that 17th century buildings may have stood on adjacent high ground. Brick rubble from one structure was covered by wood scraps and shavings from the construction of another. Fragments of a diamond-paned casement window, common in 17th century construction, were probably derived from

the former structure, although they appeared in a more recent intrusion. Both sediments were thoroughly waterlogged, and dipped toward the river like the muck and gravel beneath them. This part of the cove, at least, was still wetlands.

By about 1760, however, this area was levelled with a dense accumulation of rubbish dominated by bone from butchered livestock: sheep, cattle, and swine. The land was clearly useable thereafter, for intruding into this refuse was a privy. This contained numerous broken household items, including ceramic and glass artifacts manufactured between 1745 and 1780. Shortly after the privy was abandoned, ca. 1780, a small outbuilding was erected above it, of which only the scattered footings survive. Surely by this time a major portion of the cove had been reclaimed.

Somewhat different circumstances occasioned landfilling in the vicinity of the Granger excavation (Area 3). Here the ragged contours of the eastern "Great Rock," were exposed above the surrounding land until well into the 18th century. Upon this bedrock were the remnants of a mid-18th century foundation and a thin layer of associated debris. The sample of diagnostic artifacts was small, but included examples of delftware and free-blown bottle glass dating to ca. 1760. Originally the residence of a local merchant, this building came into the hands of Offin Boardman, a local Revolutionary War hero, and was listed as one of several of Boardman's holdings which were destroyed in the fire of 1811 (Gilman and Gilman 1811).

In the subsequent rebuilding of the waterfront, the irregular surface of the bedrock was deliberately buried. The ashes of Offin Boardman's house were covered by a single deposit more than a meter deep, consisting of sandy fill and redeposited trash from 18th century households and businesses. The fill served as a suitable base for a 20 ft wide private right-of-way, and access to the waterfront reserved in 1813 (ECRD 202:48). The new surface was also suitable for storing bulk items, and in subsequent years the yard to the west of the way was used to sell lumber, cordwood, and coal.

Wharves

The wharves and the structures on them, once the essential components of the waterfront, have suffered greatly from industrial development. Yet the wreckage of their sub-structure can often be located. There appears in Area 5 a pocket of granite ballast or fill from one of the earliest wharves (Appendix A, p. 197). This probably represents the eastern wharf of Richard Dole, constructed prior to 1681 (ECRD 10:171) and later owned by Lt. Col. John March (Fig. 3.1). The northern end of this structure is indicated as a property boundary in a probate record of 1769, and from this account can be keyed directly to this site (ECPC 15281). Undisturbed sediments which abut this granite rubble include white saltglaze stoneware, delftware, combed-slip decorated earthenware, Chinese porcelain, and some pearlware, all dating to the second half of the 18th century. By this time, the original wharf had apparently fallen into disuse, and was used by local residents as a dump.

The other Dole wharf, several meters to the west, was first in a long series of constructions which eventually grew to become City Wharf. Trench 2 (Appendix A, p. 164) verified the location of one segment, constructed for John Kent between 1718 and 1743 (ECRD 84:262). Unfortunately, all that was preserved

of the structure were the stubs of vertical planks which once lined its perimeter. The trench shows a clear break in topography between upland and lowland, which probably reflects the original low tide mark (Fig. 3.1). In the 19th century, this formed the boundary between a brick warehouse built on high ground and a frame warehouse built above the former tidal flats (Figs. 3.3 and 3.4). The rubble of these former structures also appears in the trench.

The most extensive exposure of an 18th century wharf was made accidentally by a contractor while building a section of a seawall in the northwest corner of the Central Waterfront (Fig. 3.6). The cribwork at the end of City Wharf had been ripped out in order to install steel bulkheads to "reconstruct" a small portion of the former Market Slip. Undermined, and soaked with heavy rain, the unstable walls of the excavation collapsed, exposing the line of pilings shown. This was another precursor to City Wharf, built between 1775 and 1800 for John Greenleaf (Currier 1906:131; ECRD 168:174). Like Kent's Wharf (Trench 2) this structure showed a simple line of staves acting as a retainer for the wharf fill. During the Revolutionary War, this property was owned by Patrick Tracy, one of Newburyport's wealthiest merchants, and by his son Nathaniel, who captured a fortune in British ships and cargo through privateering.

During the 18th century, the public landing on the west end of the study area was frequently leased by the town to local shipbuilders, and became the Middle Shipyard (Figs. 3.1 and 3.2). The larger ships of the 19th century were built further upstream, however, and this site then served the business district as Market Landing (Figs. 3.3 and 3.4). The Dole excavation (Area 6) exposed a portion of the Middle Shipyard and two periods of lateral expansion of City Wharf (Appendix A, p. 201). In the lowest sediments exposed, were dense layers of partially decayed wood chips, shavings, and sawdust presumed to be shipbuilding debris. In association with this deposit were a few late 18th and early 19th century potsherds, some of which may have been incorporated into this sediment from above as the wooden debris settled.

The wharf remains, such as they are, appeared above the shipyard sediments, in the eastern end of the pit. These were minor retaining walls which ran along the edge of the landing and held wharf fill made up of loose sand and granite boulders. The fill was well preserved, but the pilings were not. The first stage of construction was represented by a single surviving oak stave, like those found at the Kent and Greenleaf wharves near by. The piling was a reused rectangular timber, indicated by a mortised hole in its buried end. This end had been hewn to a point, and driven into the shipyard sediments. The piling later was burned to the waterline, and then buried under the second construction. The primary historic account of the Great Fire specifically states that this area was spared (Gilman and Gilman 1811). Although no historic verification of another waterfront disaster has been found, a second fire must have occurred within a few years of 1811. The date of construction of the next wharf expansion is not known, but it is likely that the first retaining wall was quickly replaced. All that survived were granite boulders and the stub of a single pole piling, both of which can be identified in a photograph of Market Slip taken ca. 1870.

The clearest picture of 19th century wharf construction appeared in Trench 4, (Figs. 3.7B and 3.8A). Here were remnants of Gunnison's Wharf, so identified on the 1851 Plan of Newburyport. This was built immediately to the east of the second Great Rock, and until 1872 formed the western boundary of the slip behind

Fig. 3.6. Section of an 18th century wharf exposed accidentally in seawall construction. One of many structures contained within City Wharf, this was once owned by the prosperous Colonial merchant Patrick Tracy and his son Nathaniel. The younger Tracy was famed for his success in privateering during the American Revolution, and many of his prizes were auctioned at this site.

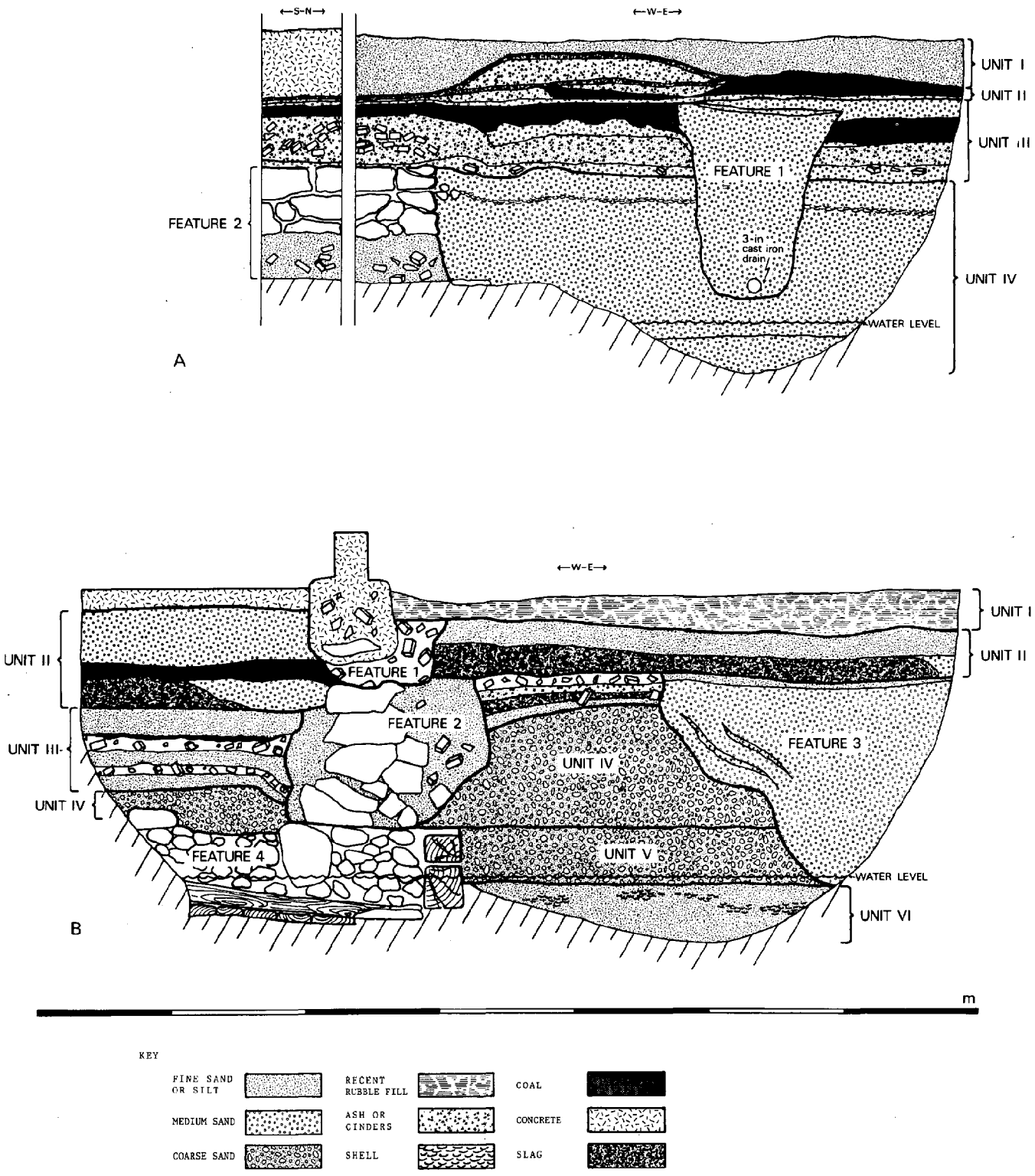
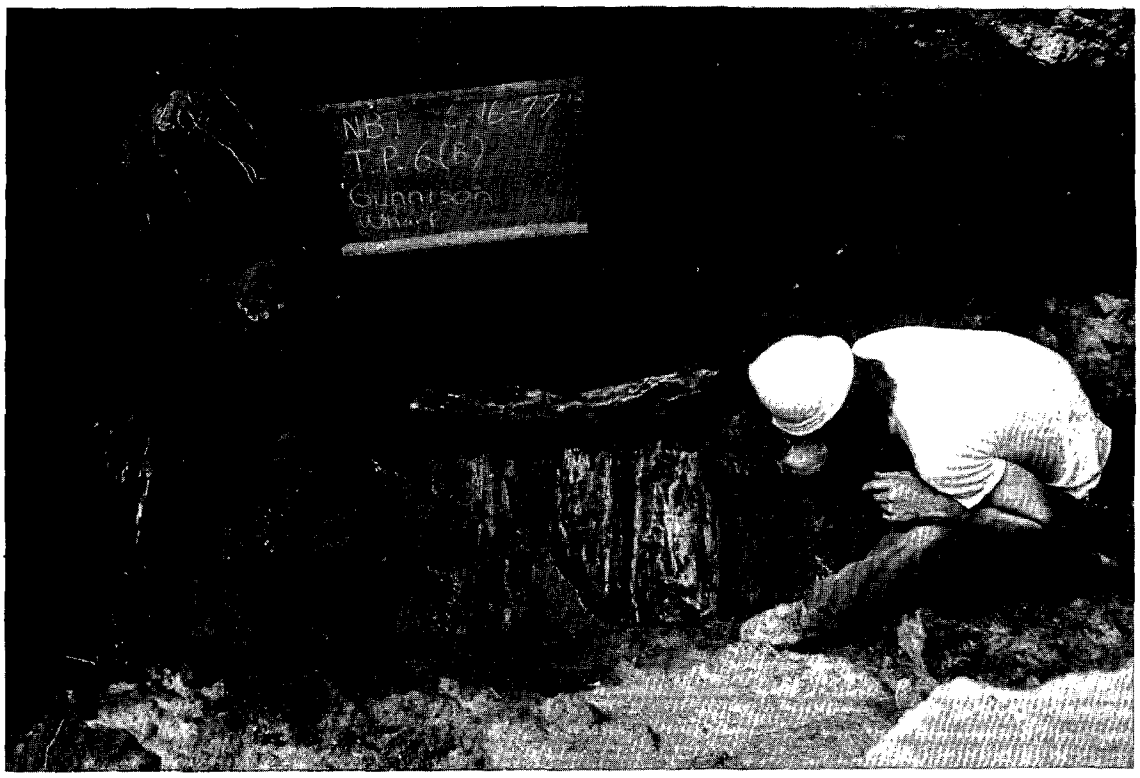
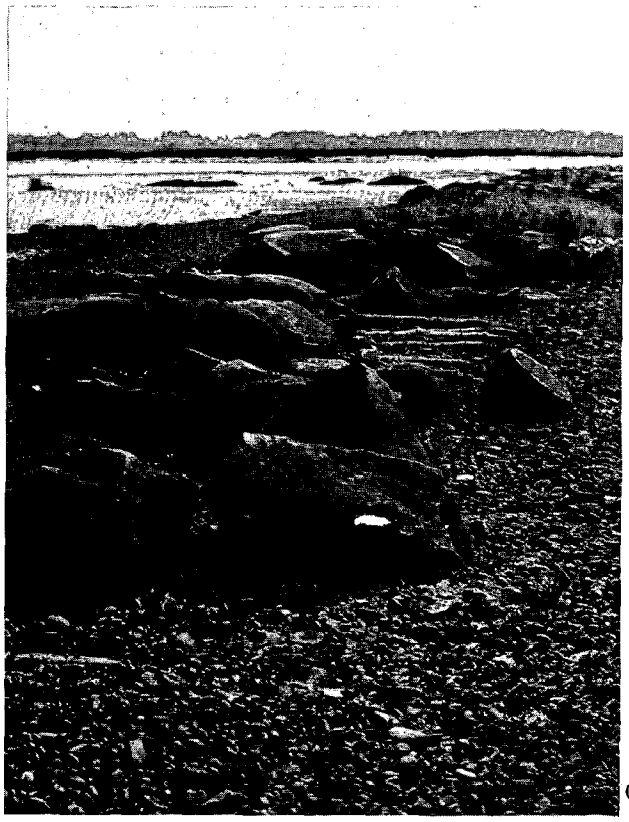


Fig. 3.7. Stratigraphic sections of Custom House slip. A, Trench 3 section taken at the head of the slip, showing slip sediments (Unit IV), building footings (Fea. 2), slag accumulation (units II and III), and a drain installation (Fea. 1). B, Trench 4 section through Gunnison's Wharf, showing wharf cribbing and ballast (Fea. 4), foundry footings (Fea. 2), foundation of a shed for heavy equipment storage (Fea. 1), and builder's trench for drain (Fea. 3).



A

B



C

Fig. 3.8. Early 19th century wharf and jetty details. A, Cribwork of Gunnison's Wharf; B and C, Plum Island breakwater, built in 1831. Note trunnel construction.

the Custom House. Although wharves are known to have existed in this area since shortly after Nathaniel Clark acquired the property from the town in 1680, this construction probably dates no earlier than 1800. Feature 4 in the profile shows a corduroy cribwork of rough-sawn timbers ballasted by granite field stones.

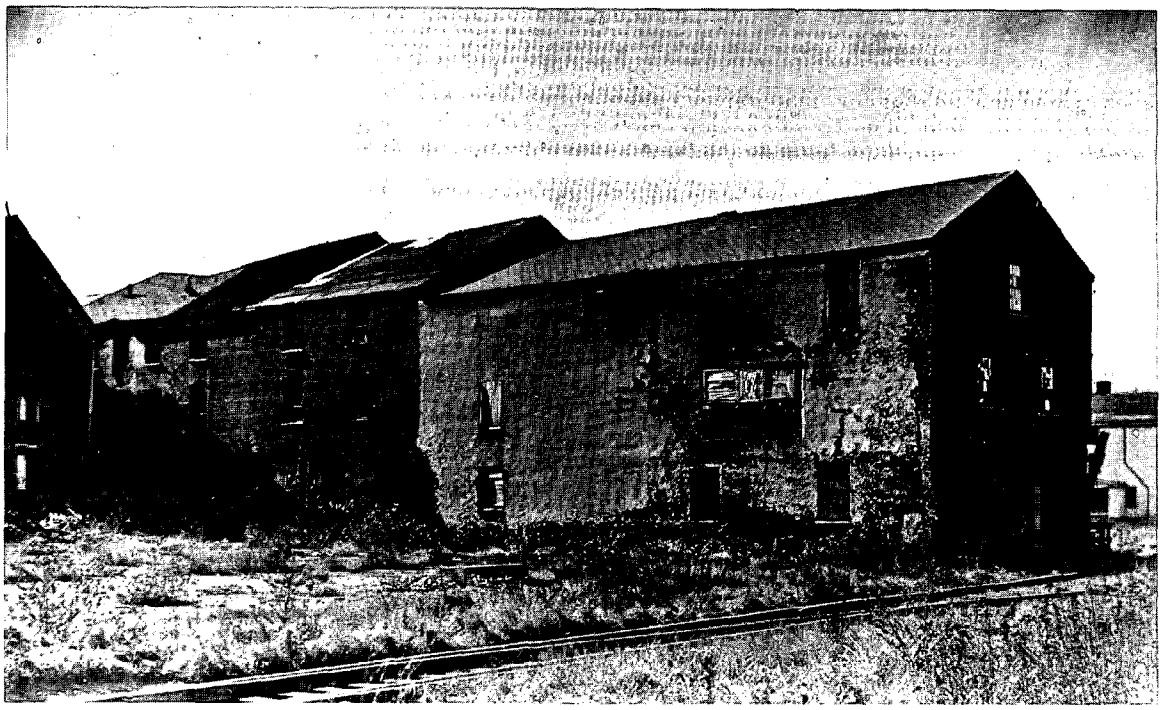
The construction of Gunnison's Wharf can be more easily understood by examining another structure of apparently identical design, a breakwater some two miles away on Plum Island (Fig. 3.8B and C). This barrier was constructed by the U.S. Army Corps of Engineers in 1831, at great cost, in an attempt to divert the Parker River channel in such a way that it would keep the channel of the Merrimack open at Newburyport. Although this venture failed, some remains of the breakwater have been preserved. Note that the corduroy of cross-pieces were pegged to longitudinal sills with trunnels, forming a semi-rigid framework. This cribbing was probably floated into position, and gradually loaded with granite field stone ballast until it sank. Staves were then driven into the sediments at the side of the structure and pegged both to the corduroy and to the sills.

Wharfside Construction: Merchant's Row

The sites of several stores and warehouses along the wharves were probed, but few showed promising results. The warehouse of Benjamin Greenleaf, clearly depicted on a plan of the Market Landing in 1775 (Currier 1906:131), was apparently obliterated, together with subsequent structures in that vicinity, when the City Railroad was constructed in 1872 (Trench 2, Appendix A, p. 164). The Abner Wood Building, a four-story Federalist structure between Ferry Wharf and City Wharf (Fig. 3.3), had only recently been razed when Area 5 was dug. Yet the basement was filled with granite boulders, and the water table rose to within a meter of the surface (Appendix A, p. 198). A similar building, erected by John Greenleaf, once stood behind the North Row. Unfortunately this was covered by a mound of recent rubble more than five meters high, and was not practically accessible. Merchant's Row, however, proved to be well-drained, reasonably accessible, and extremely well-preserved. Notwithstanding the installation of gas lines and sewers which have damaged these foundations since our excavation, these subsurface remains may prove of interest to archaeologists in the future.

The site of Merchant's Row was Ferry Wharf, where since 1688 March's Ferry and its successors provided transportation across the Merrimack to Salisbury (Currier 1896:44; 1906:366). The row's foundations were set on the east side of the Great Rock, formerly Captain White's Warehouse Point. The complex of brick stores and warehouses built here was one of the oldest to survive into the 20th century, and was the last to be demolished (Fig. 3.9).

The nucleus of Merchant's Row was apparently a three-story warehouse or store, two or three bays long, constructed ca. 1773 (Currier 1906:177). The northern end of this building, exposed in Area 1, shows that elaborate precautions were taken in the original construction to waterproof the basement (Figs. 3.10 and 3.11). A layer of gravel covered the bedrock to provide a stable footing for the floor joists. Between these heavy timbers was placed a water barrier of sandy clay, very much like the mixture used to make bricks. The joists and the plank flooring were all pegged firmly together with hardwood trunnels, but the floor as a unit was structurally separated from the surrounding



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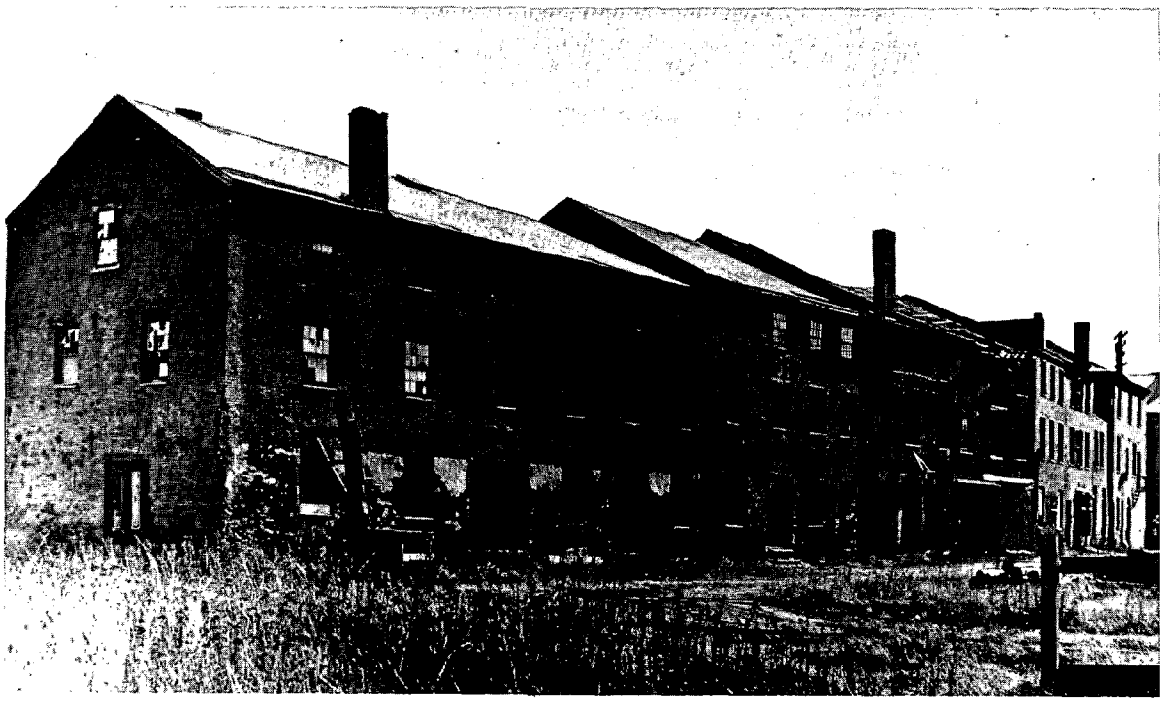


B

Fig. 3.9. Merchant's Row, ca. 1934. A, Boardinghouse (far left) and Merchant's Row (right) from the northeast; Area 4 excavation was between these two structures. B, West side of Merchant's Row; Area 1 excavation was located between the nearest two sections (center). Photos courtesy of The Essex Institute, Salem, Mass.

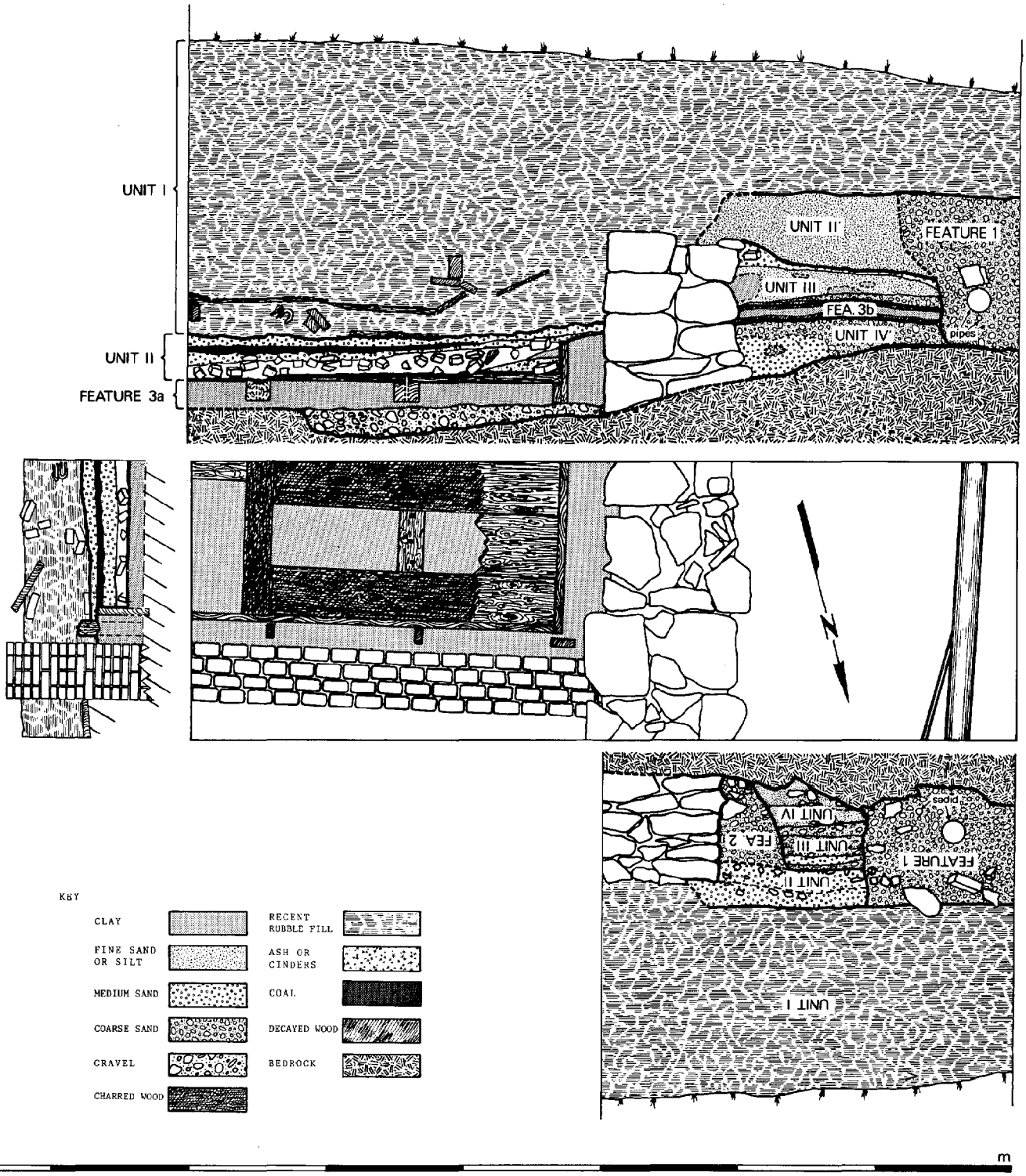
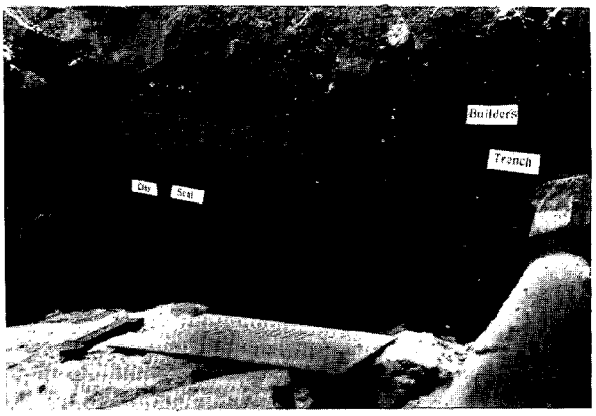


Fig. 3.10. Area 1, Merchant's Row in plan and profile. Construction details include clay lined flooring (Fea. 3a), foundation waterproofing (Fea. 3b), builder's trench for foundation additions (Fea. 2), and builder's trench for utilities (Fea. 1). Note the flooring, burned in the fire of 1811.

A



B

C

D

Fig. 3.11. Area 1 excavation, Merchant's Row. A, Ferry Way, showing outcropping of the Great Rock; B, clay seal waterproofing for foundation; C, basement of store no. 4 looking south; D, partition between stores 3 and 4 (right).

foundation walls. In the intervening space at the base of the foundation was another clay barrier which extended well above the flooring, and was held in place by a low wooden wall.

Similar precautions against high tides and storms were taken in preparing the outside of the foundation. Because the building was set on the east side of the Great Rock, well below its crown, runoff and ground water would have tended to flow directly under the foundation and into the basement. To counteract this problem, a clay seal was installed which sloped slightly in the opposite direction (Fig. 3.11B). This was apparently intended to carry surface water over the opposite side of the rock where it would drain through Ferry Wharf. The seal was made up of a sandwich of wood, now decayed, and the same sandy clay used to waterproof the interior. Incidentally, the foundation trench fill immediately below this seal yielded one aboriginal artifact, an Otter Creek projectile point.

There is some indication that the attempt to provide dry storage here was ineffective. An addition was constructed to the northern end of the principal building which was open for business by 1803 (Newburyport Herald:April 22). The foundation for this annex truncated a segment of the clay seal surrounding the earlier building, and no attempt was made to repair it. Although the interior of the southern addition was not excavated, there was no evidence outside the building that the new addition was waterproofed at all. Incidentally, two more aboriginal artifacts were found in the builder's trench for this addition: a small chert biface and a side-notched Normanskill point of the same material.

Merchant's Row was gutted in the fire of 1811, but apparently was not totally destroyed (Gilman and Gilman 1811; Currier 1906:177). The basement flooring was partially burned in this catastrophe, and covered with some ash and brick rubble. Although the building was reconstructed within months after the fire, this basement was never rebuilt. Apparently it was not used again until later in the 19th century when a layer of sand was spread over the charred remains, and the space was used for a coal bin.

Further details of Merchant's Row were discovered in Area 4, near the southern end of the complex. Originally the structure had a rear access facing away from Ferry Wharf. The granite foundation was notched to accommodate an entrance to the basement (Fig. 3.12). This was partially bricked up after the Great Fire, and the space fitted with a small basement window and a wrought iron grate. The rear access may have been rendered unusable by construction of adjacent buildings in the early or middle 19th century. In any event, the space between buildings was filled with trash, and eventually the new basement window was itself covered. At the time of excavation, the bottom of this feature was buried nearly a meter below the land surface.

Foundation details in Area 4 also indicated periods of expansion in the first quarter of the 19th century. Two brick bays were added on the southern end of the complex, probably upon the footings of an earlier wood frame annex. In its maximum extension, Merchant's Row stretched in a continuous line of eight stores from the rear of the Ferry Wharf Building to the head of a slip on the east side of the wharf (Fig. 3.3). Only the eighth and most recent store remains, now a part of the Ferry Wharf Building.

Fig. 3.12. Basement window in east wall of store no. 6, Merchant's Row, exposed in Area 4 excavation. The window, protected by an iron grate, replaces an original basement doorway. The burned area in the foreground may date to the fire of 1811.

The periodic additions to Merchant's Row indicate that whether or not the complex had functional basements, there was a growing need for floor space and storage along this section of the waterfront. In 1803, Newburyport was near the height of commercial prosperity and the row had recently been expanded. The stores were retailing and wholesaling a broad sample of the goods which regularly passed through this port. Closest to the river, in store No. 1, Ebenezer Stocker sold everything from Havana sugar and "segars" to iron, window glass, and duck (Herald:May 6, 1803). His neighbor, Richard Foster, advertised a wide variety of foodstuffs, hardware, and building supplies. West Indies rum, wines, gin, brandy, as well as tea, coffee, sugar, pork, and "country produce" (flour, butter, etc.) were sold along with cotton, iron, steel, window glass, nails, and shovels (Herald:April 22, 1803). Abner Wood, in store No. 3, was evidently more specialized, advertising only codfish.

Surely the longest tenants of Merchant's Row were the Davis family, who used portions of the upper stories, where floor space was unobstructed by vertical supports, to make sails. Currier (1906:177) indicates that Ambrose Davis first leased a brick store on this site in 1773. Throughout the 19th century a succession of later Davises, working with their sons, occupied the top two floors of the 5th and 6th stores (4 Ferry Wharf). By 1889, William A. Davis and his son Benjamin G. Davis had expanded their business to include awnings (NCD 1889). The family business continued until 1915 when Benjamin was bought out by another awning maker (Cheney 1964:310).

When the sail loft was torn down ca. 1935, much of the sail and awning debris was pushed into the cellar hole of an adjacent boarding house. Here, in Area 4, were unearthed fastenings, grommets, hardware, and other relics of the Davis business shown in Fig. 3.13. Of particular interest were two copper stencils used to ink the maker's mark on the finished product. The stencils were ideally diagnostic, as they identified the owners, and gave their address and occupation. This information led to the discovery of a photograph of Benjamin G. Davis (son of W. A. Davis) at work in his loft (Fig. 3.14).

Merchant's Row survived intact into the 20th century because, in a sense, it never became obsolete. The shops and warehouses still served the modest needs of commercial activity existing after Newburyport ceased to be active in international trade. While newer frame warehouses further out along the wharves succumbed to railroad and coal pocket construction, the Merchant's Row location never became sufficiently valuable to warrant the building's replacement. Its demise, instead, was gradual deterioration, hastened by periods of total neglect.

Drainage of the Uplands

In the 17th century, runoff and ground water from the uplands must have passed through the east and west "gutters," repeatedly mentioned in describing the land grants made to Richard Dole and Captain Paul White (Fig. 3.1). These were probably natural spring-fed rivulets, rather than man-made storm gutters. Where they emptied into the tidal area, they evidently had carved deep channels, for they served to mark property boundaries. The channels were flushed twice daily by the tide, which probably kept them clear in the same way that man-made ditches through the nearby salt marshes remain open today after decades of neglect.

Fig. 3.13. Sail making and awning supplies from boardinghouse cellar fill, Area 4. A and B, Sail maker's stencils; C, grommets; D, awning frame section; E, cleats; F, pulley; G, awning pull release; H, release mechanism; I, mounting brackets.

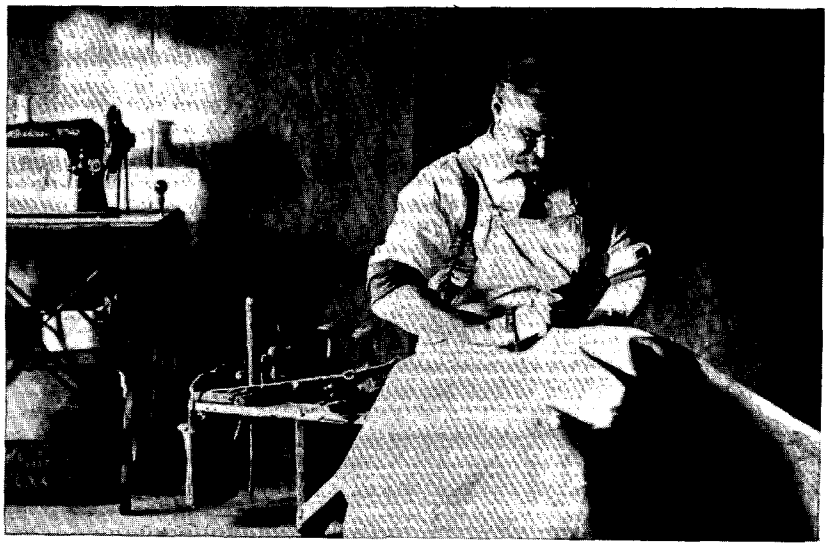


Fig. 3.14. Benjamin G. Davis at work at the sail loft in Merchant's Row at "4 Ferry Wharf," ca. 1908. Photo courtesy of Newburyport Press.

Whatever the form of the original gutters, they have long since been replaced by individual, private drains and by successive networks of public storm sewers. While we did not intentionally seek out these features, several examples were exposed in the course of testing the ways between buildings and the edges of former wharves. Other drains were brought to our attention by construction crews, as utilities were installed for the newly renovated buildings on Water Street, and as the seawall around the Central Waterfront was being constructed.

Early drains were apparently privately maintained, and served the practical expedient of keeping individual cellars dry for storing merchandise. Wet basements were not confined to low lying buildings such as Merchant's Row, but also plagued the Federalist buildings on Water Street. Rutsch and Peters (1977) have shown in a preliminary archaeological study that the cellar of the North Row had at least two floors, one brick and one stone, beneath the rubble surface existing at the time of renovation. In raising the floor above the water table, the cellar was reduced to little more than a crawl space. A brick drain in the uppermost of the two floors must have emptied into Market Slip.

Our excavations at the head of Market Slip, in Area 6, uncovered a rectangular wooden drain leading directly from this building (Fig. 3.15 and Appendix A, p. 202). At its mouth, where the drain crossed over the granite fill of City Wharf, it showed clear evidence of having been re-excavated, taken apart, and cleaned. This was probably a periodic necessity for many similar conduits. Although this wooden section may have connected with the brick outlet identified within the North Row, it was probably an earlier installation, dating to the beginning of the 19th century. The water problem at this particular site comes as no surprise, for the east end of this building apparently straddles the site of a 17th century gutter (ECRD 140:79).

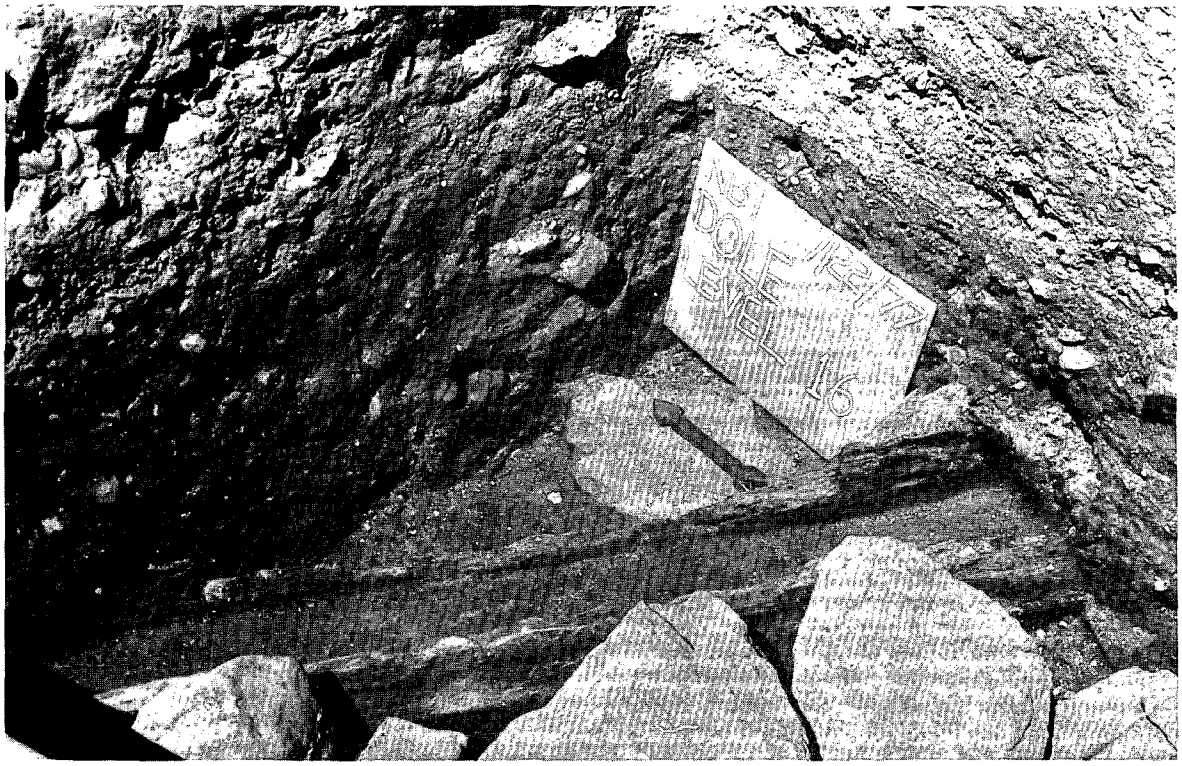
Because the drainage systems through the early 19th century were maintained privately, the legal arrangements between the many property owners affected were quite involved. One complex agreement was recorded between owners of the immediate forerunners of the Davenport, Ferry Wharf, and Abner Wood buildings. In 1811, just two months before the Great Fire, John Greenleaf granted to nine storeowners:

> ...the use, privilege and liberty of using, making, constructing and supporting at their own expense a convenient drain through the said Greenleaf's land from Market Square to the dock between his two wharves called Greenleaf's Wharf and Ferry Wharf...for the purpose, use and convenience of draining the water from the cellars of their respective stores.

It was also stipulated that the drain:

> ...shall never exceed five inches in diameter, and no water from any sink or vault or any other source except the water of their respective cellars shall ever be carried through said drain forever (ECRD 191:26).

Greenleaf also reserved the right to extend his dock at any time, thus terminating the agreement. Yet his rent for the drainage easement was reasonable enough: one barleycorn per year, payable on demand.



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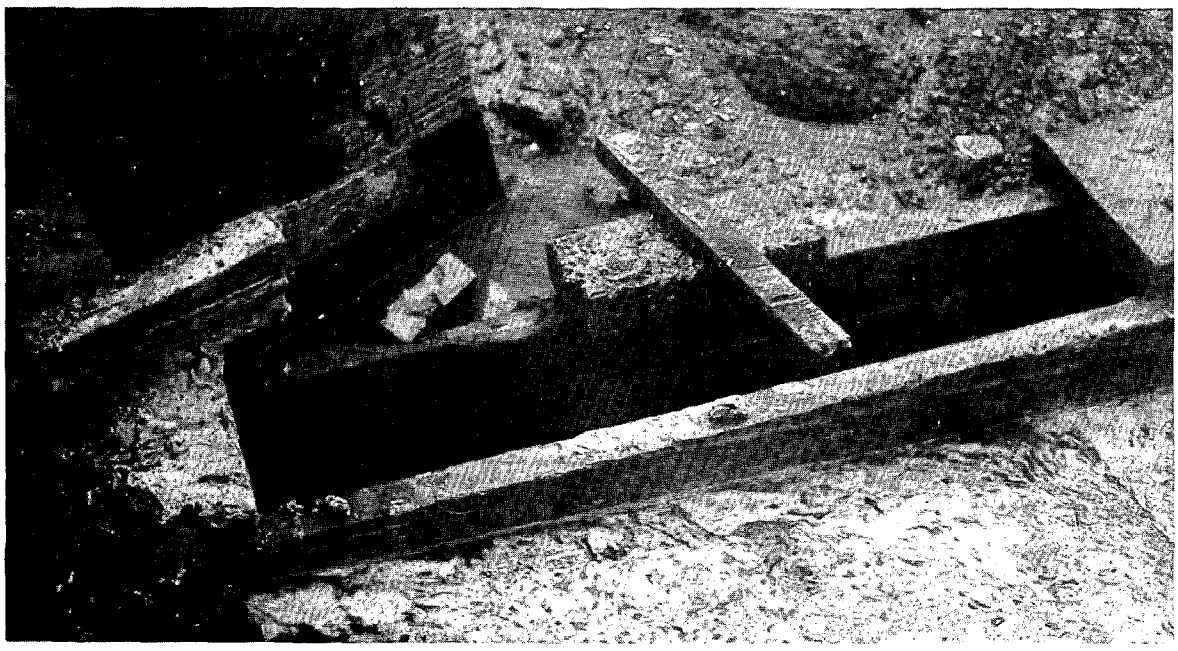


B

Fig. 3.15. Early 19th century wooden drains. A, Section leading from North Row to Market Slip, exposed in the Dole excavation, Area 5; B, comparable drain exposed in seawall excavation; note trunnel construction. Tops removed in both cases for inspection.

A much more substantial conduit, perhaps publically owned, was exposed in the process of seawall construction. This was a granite-lined rectangular structure, having a cross-sectional passage 30 cm or more square, which ran along the former site of the "east gutter" and emptied at the end of Ferry Wharf. Minor cleaning of its wooden outlet proved that the drain was still functional. With the escaping water, out rushed the straight sole of a one-last shoe, the common form of footwear made prior to the Civil War.

The most serious drainage problems of the waterfront, and indeed all of Market Square, began with the construction of the City Railroad in 1872. The slips were blocked and then backfilled, occluding the outlets of active drains, many of which probably had been forgotten. Excavation showed that serious attempts were made to drain Market Square as a whole, as well as individual buildings. A well-crafted brick storm sewer, approximately 1 m in diameter, was exposed in Trench 1 (Appendix A, p. 162). This was installed in the sterile fill of the former Market Slip shortly after the railroad was built. Also from this period were smaller cast iron drains, no more than 10 cm in diameter, which were encountered behind the Custom House in Trench 3 (Fig. 3.7), and along the side of Merchant's Row (Fig. 3.10). Fully modern drains were also revealed in Trench 2 and in the Dole excavation, Area 6 (Appendix A, p. 167 and p. 202), and an extensive storm sewer system has been planned for the parking area which is to cover the former wharf sites.

Industrial Development

The occupants of the Central Waterfront in the Colonial Period were not just resident merchants and persons with related maritime interests. Part of the eastern section, at least, was devoted to a few local crafts and small scale manufacturing. Some evidence for these activities comes from redeposited 18th century fill in the Granger Excavation, Area 3 (Fig. 3.16). Although the fill was intentionally placed here after the Great Fire of 1811 destroyed the house of Offin Boardman, the materials contained in the fill were derived from earlier occupations, dating from at least 1775 (Fig. 3.17).

A few one-hole discoidal bone buttons of a type commonly found in middle to late 18th century refuse were discovered in this trash (Fig. 3.17D). Considering the dispersed and fragmentary nature of associated ceramics and glass, it was unlikely that these buttons could have come from a single garment. Although this handful of bone buttons outnumbered the total retrieved from all other 18th century deposits on the waterfront, the discovery of these items was not remarkable by itself. However, the same fill also contained the sawed tip of a horn. This particular find is intriguing because it duplicates the waste produced in comb manufacturing, an industry known to have been active in Newbury in 1759. Although the evidence is circumstantial, these bone and horn items probably were connected with one historic figure:

> Some time this year [1759], Mr. Enoch Noyes, a self-taught mechanic commenced, without instruction, making horn buttons and coarse combs, of various kinds, and continued the business till 1778, when he employed William Cleland, a deserter from Burgoyne's army, a comb-maker by profession and a skillful workman. This was the commencement of the comb-making business in Newbury and various other places (Coffin 1845:225).

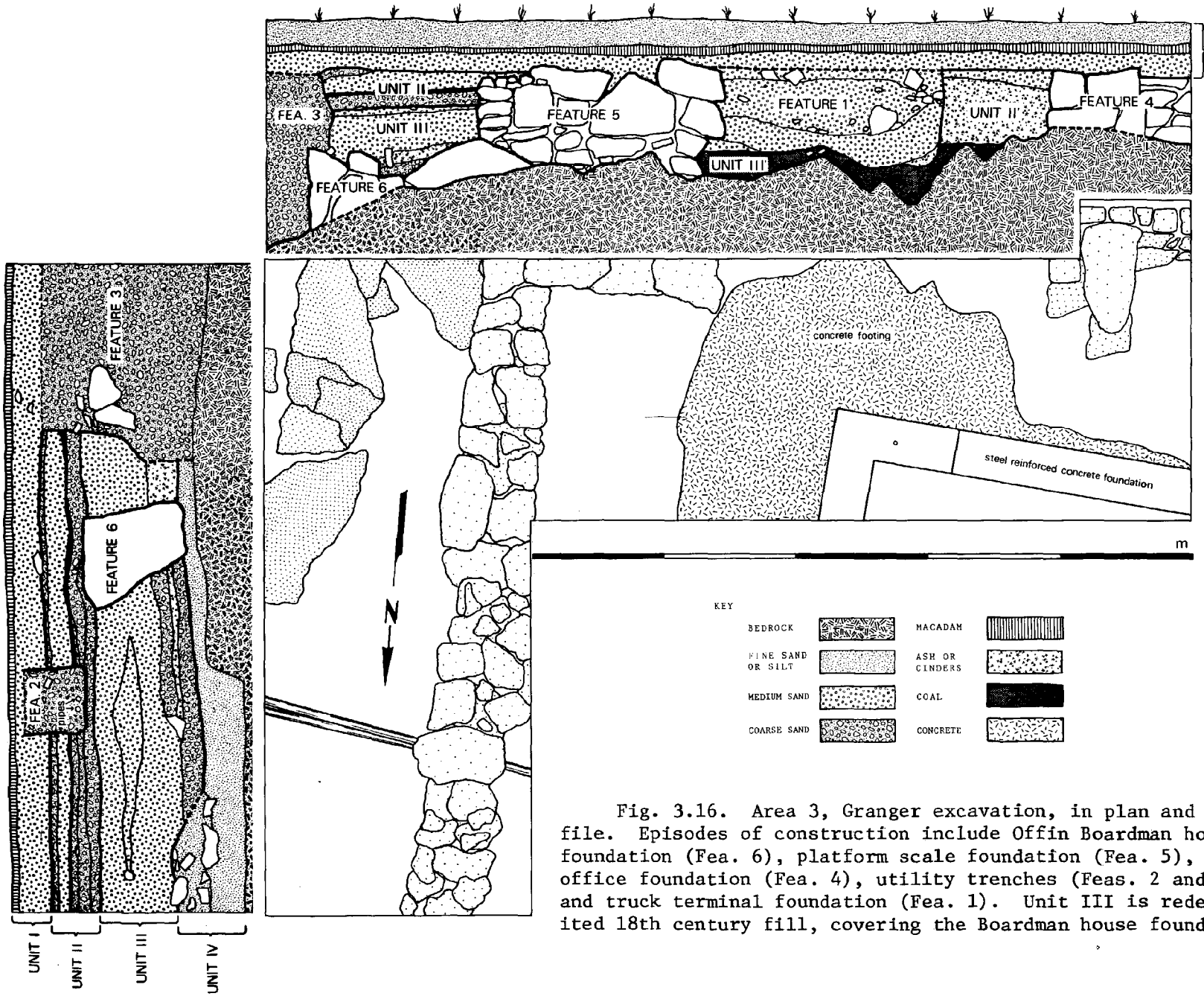


Fig. 3.16. Area 3, Granger excavation, in plan and profile. Episodes of construction include Offin Boardman house foundation (Fea. 6), platform scale foundation (Fea. 5), coal office foundation (Fea. 4), utility trenches (Feas. 2 and 3), and truck terminal foundation (Fea. 1). Unit III is redeposited 18th century fill, covering the Boardman house foundation.

Fig. 3.17. Middle to late 18th century artifacts from fill covering the Offin Boardman house foundation, Area 3. A, Incised bone knife handle; B, creamware sherd thought to be a whetstone or burnishing tool; C, defective bronze casting fragment (pump cylinder?); D, horn tip (comb making waste) and single-hole bone buttons; E, pipe clay wig curler fragment, with the stamp "WB" on its end; F, single fold lead seal, inscribed "1998" on reverse side.

Comb making continued in the Noyes family into the 20th century, and developed into an important industry in Newburyport. For a brief interval during the 1870's a William H. Noyes occupied a shop on Water Street on the other side of the Custom House, but this could not possibly have been the source of the refuse in question, as it was in operation fully a century later. These pieces probably came from the original comb and button shop. A Deacon William Noyes, one of Enoch's ancestors, owned property directly across the street from the Granger site in 1700 (Currier 1896:118), and this may have become the site of the first comb works.

Another fascinating artifact was the broken end of a wig curler made out of white pipe clay (Fig. 3.17E). The fragment is clearly identifiable as a late 18th century British-made curler by the initials "WB" printed on its end, although it is not known what these initials stand for (Noel Hume 1970:321). Like the buttons, this might just represent another item of household refuse, as wigs were commonly worn in the period 1700 to 1780. However, in a city of Newburyport's stature a curler is more likely to be associated with a barber or a wig maker, as home hair setting was probably not in fashion. Furthermore, the parcel of land immediately to the east of this excavation was sold in 1739 to Joseph Parker, "perriwig maker" (ECRD 78:36), who kept this land until 1762 (ECRD 115:210). In all likelihood, the fill that was pushed over the Boardman foundation was derived in part from the land of this wig maker.

It should not seem unusual that a lead seal was found here, within a few dozen paces of the 18th century custom landing (Fig. 3.17F). The figure "1998" clearly scratched on one side is a mystery, but the "13/OZ" on the reverse face indicates that the material so tagged was packaged in small amounts, and may have been of considerable value. That it was tagged by weight, suggests that this may have represented a quantity of precious metal. To this day Newburyport is renowned for silversmithing, a craft which has been carried on here since 1690 (Currier 1906:169). A gold and silversmith, appropriately named Joseph Moulton, was in business in the third quarter of the 18th century on State Street, near the project area. Perhaps this seal was his.

Also of interest was a brass casting fragment from a thin-walled cylindrical object, perhaps a pump (Fig. 3.17C). The fragment was riddled with bubbles, and probably represents the trash of a brass foundry. While no historic record of an 18th century brass foundry was found, this business was probably a necessity in a community heavily committed to shipbuilding.

The success of early crafts in Newburyport was ultimately dependent on the commercial prosperity of the seaport. When Newburyport failed to recapture the international trade after the War of 1812, her craftsmen must have suffered economically along with her merchants and tradesmen. Undoubtedly a considerable number of them were forced to close their doors. True industrialization, which was rapidly progressing along the fall line of the Merrimack, went wanting for a power source in Newburyport until the 1840's. It was steam power which finally set the town back on its feet, and the eastern end of the Central Waterfront became specialized in providing fuel and the new machinery.

All that is known of the Granger area immediately after the fire of 1811 is that the Offin Boardman house foundation was apparently scavenged for building stone, and that the surface was then levelled with fill. By 1830, several small parcels were consolidated to take in most of the land between the sites of the

present Ferry Wharf and Gunnison buildings (ECRD 256:138). From 1835 to 1852, this was the lumber yard of George T. Granger (ECRD 286:21; NCD 1852). By 1854, this parcel was in the hands of Newman Brown who sold coal and cordwood here (NCD 1855), and for the next 60 years this section of the waterfront was used for coal storage.

Remnants of two structures from this period of coal sales were exposed: a weigh scale and its associated coal office (Fig. 3.16). The scale was probably the same one advertised by Newman Brown in 1868 (NCD 1869), although it was built much earlier. Those who remember this scale describe it as a low platform type, with no above ground superstructure. The scale must not have impeded traffic, for it was built upon a 20 ft private way which had been reserved since 1813 (ECRD 202:48, 203:73). The device was still being used by the Philadelphia and Reading Coal and Iron Company in 1913 (Fig. 3.18).

Immediately to the west of the scale was the corner of an office where the weight was read. This was a small, one-story brick structure built by Henry M. Cross ca. 1872, the third and most recent in a succession of such buildings (Fig. 3.5). Although the earlier coal offices appear in photographs and a lithograph, archaeological evidence for them was obliterated when the Graf Brothers trucking terminal was built in 1949.

Only one building survives on the Central Waterfront which dates from the early days of industrialization--the mansard-roofed Gunnison Building (Fig. 3.19). William Gunnison built this structure to replace two previous buildings, a blacksmith shop and a grain dealership, both of which appear on a 1840 bank note engraving. The new edifice was marked on the 1851 Plan of Newburyport, where it was partitioned into its two component functions. A photograph taken ca. 1870, when the building was heavily damaged by fire, showed that the former blacksmith shop was then designated a machine shop. The building also housed a steam printer, a manufacturer of endless belts, and two other businesses.

Behind the Gunnison Building once stood a two-story annex, which, together with the adjacent way, was sampled in Area 2. This wing had only recently been torn down at the time of excavation, and the remaining brickwork showed that this was an integral part of the main structure, and not a later addition. The annex was constructed partly on the granite foundation of an earlier building, probably built in the second half of the 18th century (Fig. 3.20, 3.21). The foundation trench contained some late 18th century ceramics and glass and a George II half-penny dated 1748. The early building was probably a barn or shed for the residence of Enoch Toppan. The space between this outer foundation and an interior brick partition was used as a coal bin for the Gunnison annex. Coal still remained in the basement at the time of excavation, apparently abandoned when the heating system was converted to oil.

Like the sediments immediately outside the building, the lower levels of the coal bin were heavily stained with dark red and orange oxide. The source of these stains was surely iron dust or filings, which must have filtered down through the flooring into the basement and which escaped through the doors and windows as well. The absence of significant quantities of cinders and slag precludes actual foundry work such as was discovered in Trenches 3 and 4, although the oxide deposit could easily have been produced by grinding castings. Unfortunately, few mid-19th century artifacts were found in this site, and the precise function of the annex at this time is unknown. The source of the

Fig. 3.18. Coal cart after leaving the scales of the Philadelphia and Reading Coal and Iron Co., ca. 1913. The Gunnison Building appears in the background, then occupied by the National Biscuit Company (Nabisco).

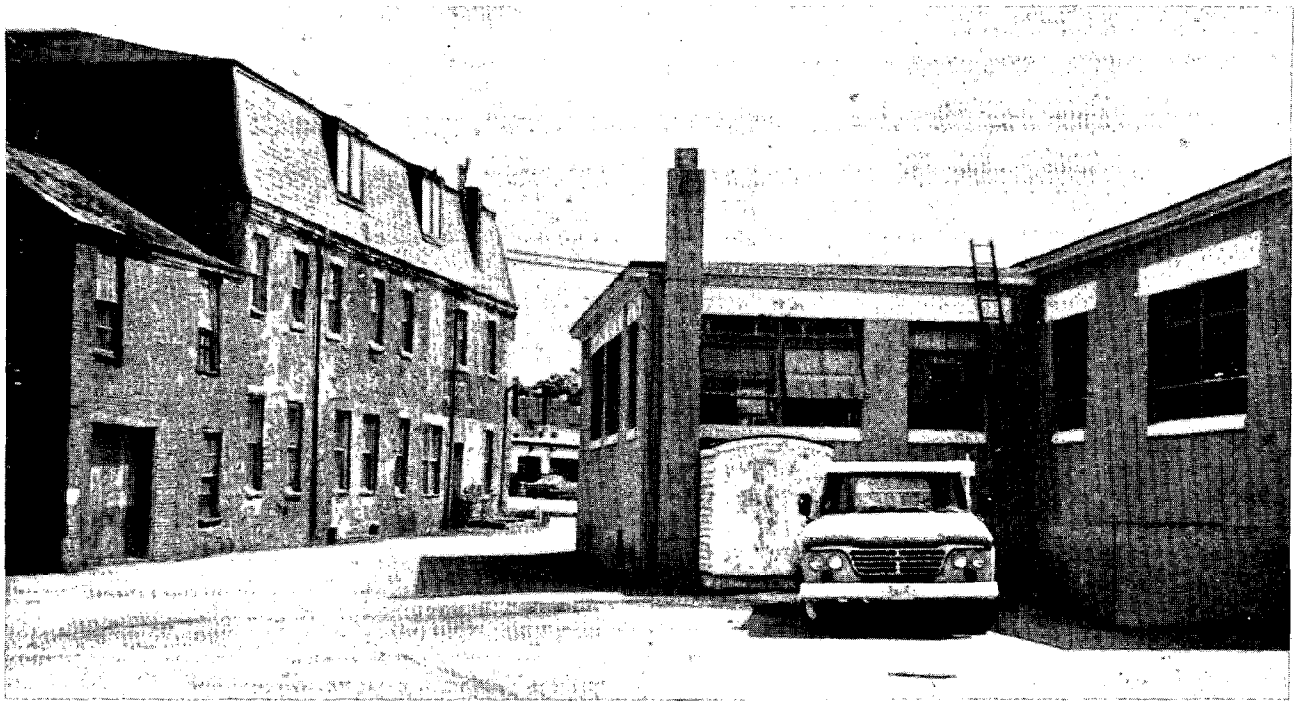


Fig. 3.19. Gunnison Way, ca. 1966, looking south, showing the Gunnison Building and annex (left) and truck terminal (right). The Granger excavation, Area 3, was placed between these buildings, near the road, while the Gunnison excavation, Area 2, was located at the annex site. Photo courtesy of the Newburyport Redevelopment Authority.

Fig. 3.20. Gunnison Way and Annex, Area 2, looking east.

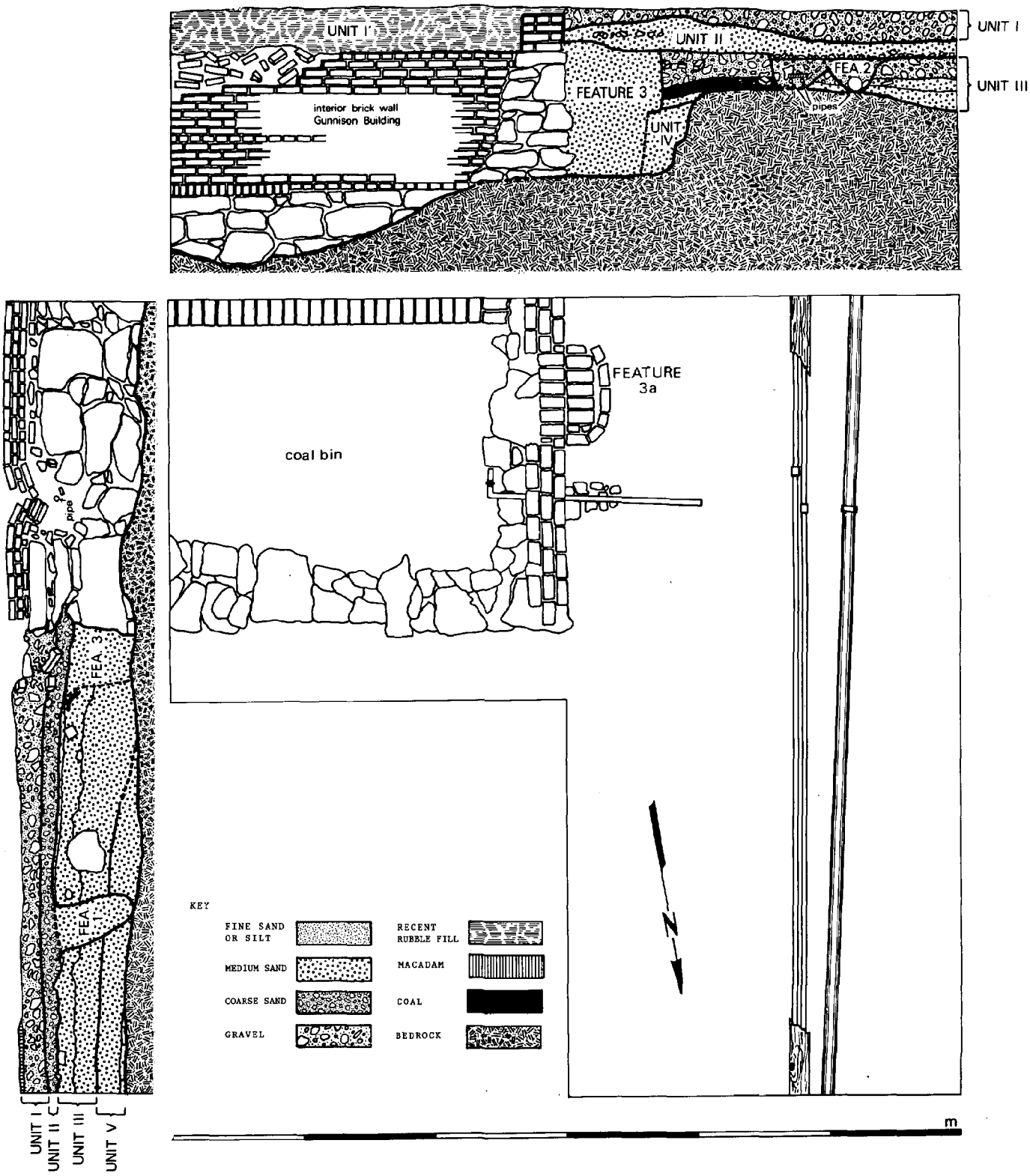


Fig. 3.21. Area 2, Gunnison annex, in plan and profile. Intrusions include a foundation trench (Fea. 3) and utility trenches (Feas. 1 and 2). Feature 3a is a layer of used bricks set beneath a former window opening, presumably to eliminate weeds.

machining wastes may well have been Gunnison's "blacksmith shop" or a later factory. A likely candidate was the machine shop of Everett Pearson, who occupied part of the Gunnison Building in 1870, and who fabricated boilers and donkey engines for Newburyport's shipbuilding industry. In either case, the archaeological evidence is clearly compatible with what is known historically of the Gunnison Building in this period.

In the 20th century, the annex probably served as a horse stall and a garage. A basement window was bricked up ca. 1900, and a large door installed above it. Scrap brick probably derived from the door installation, was placed in the gravel and coal dust of the way, paving an area in front of the new opening. Associated with this rude paving was a minor accumulation of horse shoe fragments, harness buckles, and leather scraps. Above this was a more substantial accumulation of automobile parts. One specimen of particular interest was a Selden Patent label (Fig. 3.22). George Selden, an American lawyer turned inventor, received a patent in 1895 for his 1879 gasoline-powered automobile (Anon. 1908). For a few years after it was granted, certain automobile manufacturers honored the Selden Patent, and attached this label to their products. Henry Ford was not one of them, however, and he eventually succeeded in invalidating the patent. The car represented here was no "tin Lizzy", but rather a competitive make dating to the first decade of the century.

Transfiguration

For the first few decades of industrialization, there were few new physical changes in the Central Waterfront. Wharves of 1850 were little altered from those of 1810, and the architecture was still predominantly that of the Federalist Period. Only the eastern end showed significant changes, the most obvious of which were the construction of the Gunnison Building and the development of the coal and cordwood business next door (Figs. 3.3 and 3.4).

The single phenomenon which triggered a transformation of the waterfront area was the construction of the City Railroad spur in 1872 (Fig. 3.5). The roadbed was built directly across the ends of the wharves, eliminating several warehouses and blocking off the major slips. The archaeological evidence for this transformation is abundant, and includes the filling of Market Slip (Trench 1 and Area 6), the destruction of City Wharf and one of its warehouses (Trench 2), and filling of the Custom House Slip beside Gunnison's Wharf (Trenches 3 and 4). Railroad construction left only the protruding ends of the longest wharves as a port facility, and effectively isolated them from the commercial buildings they were designed to serve.

The railroad was built not just to bring in freight to the downtown area, but was also part of a trans-shipment facility for coal brought into Newburyport's harbor by barge. Soon after the railroad was built, the Philadelphia and Reading Coal and Iron Company built a huge coal pocket on the east end of the study area, taking in the coal yard of Henry Cross. The skyline was then dominated by this sixty-foot structure which dwarfed the surrounding Federalist buildings (see cover). When a second coal pocket was added in 1890 on the west end of the study area, the remaining wharf ends were covered and the transformation of the waterfront was completed.

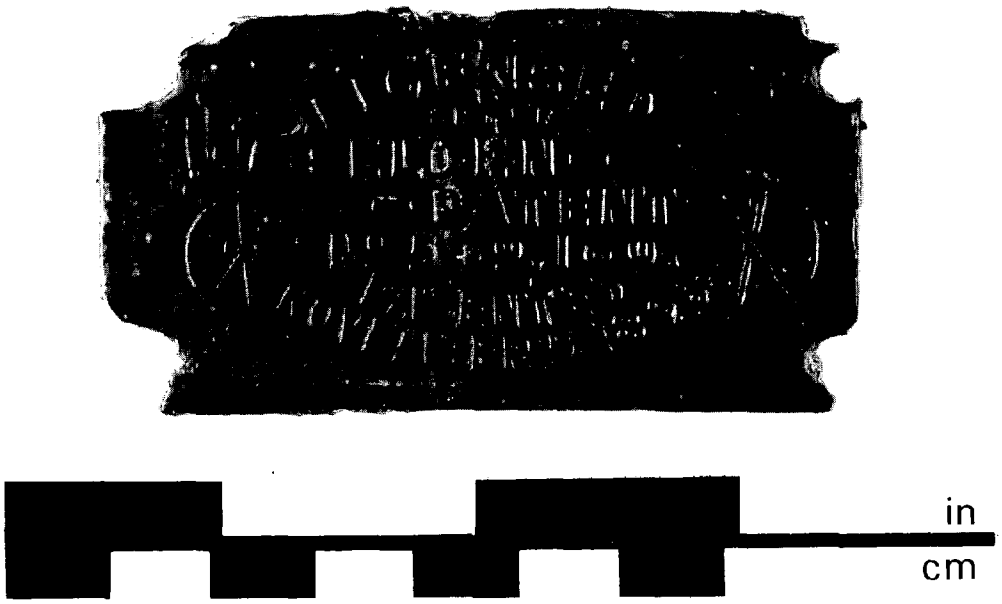


Fig. 3.22. Selden Patent Label. This label was attached to the products manufactured by member companies of the Association of Licensed Automobile Manufacturers, who honored George Selden's patent for a gasoline automobile. This patent was contested by Henry Ford in a court case beginning in 1904 which Ford won several years later.

Even as the coal pockets and the railroad contributed fuel to Newburyport's industry, they contributed to its industrial waste. All excavations in former slips and along the ways showed a considerable accumulation of ash, cinders, and spilled coal. Another major source of waste was a large foundry, built on the site of Gunnison's Wharf. Quantities of indurated slag appeared in Trenches 3 and 4 (Fig. 3.7). The accumulation of railroad, coal pocket, and foundry waste in many areas added as much as 80 cm to the land surface.

The great amount of filling and waste accumulation which occurred in the 19th century completely disguised the character of the original landscape, and produced some curious side effects above and beyond the drainage problems mentioned earlier. When water utilities were installed in the 1880's, for example, they followed some unlikely and ill-chosen paths. It was natural, of course, that these pipes should follow public or private rights-of-way adjacent to the buildings they were intended to serve. But along the Gunnison Building and beside Merchant's Row (Figs. 3.21 and 3.10) they were placed directly upon the former rock outcroppings. In fact, these are the only two places known where bedrock comes within a meter of the surface. In the Gunnison excavation, the pipes were found to be boxed with wood to create an air space which would insulate them. As they rose to within 25 cm of the gravel pavement of the way, it is doubtful whether they survived severe cold weather.

A similar incident occurred in 1949 when the Graf Brothers truck terminal was built over the former coal yard between the Ferry Wharf Building and the Gunnison Building. Plans called for a small furnace basement to be placed in a particular location--the site of the eastern Great Rock. It must not have been practical to redesign the floor plan, for the contractor blasted away part of the ledge, presumably at considerable expense.

Most recently, bedrock was encountered in reconstructing a portion of Market Slip, part of the new seawall. Once scoured to a considerable depth by the west gutter, the Market Slip was to be dug even deeper. After weeks of scraping, dredging, and discussion, engineers and contractors agreed that it was far simpler to change the specifications than to remove more bedrock.

Although some clues to the form of the wharf area still lay buried beneath waste, demolition debris, and fill, no traces remain exposed on the surface. While the late 19th century witnessed the obliteration of the wharves and warehouses, the 20th century has seen replacement buildings come and go and the waterfront deteriorate in economic importance. Once the economic focus of the commercial district, it now serves as a parking lot. It is unfortunate that while the redevelopment of the central business district has preserved the architecture of Newburyport's Federalist Period, the rebuilding of the waterfront has included nothing to suggest the former character of the port. Today the harborside would be just as unfamiliar to Federalist merchants as to Captain White.

4. OLD FAMILIES AND IMMIGRANTS AT THE WATKINS SITE

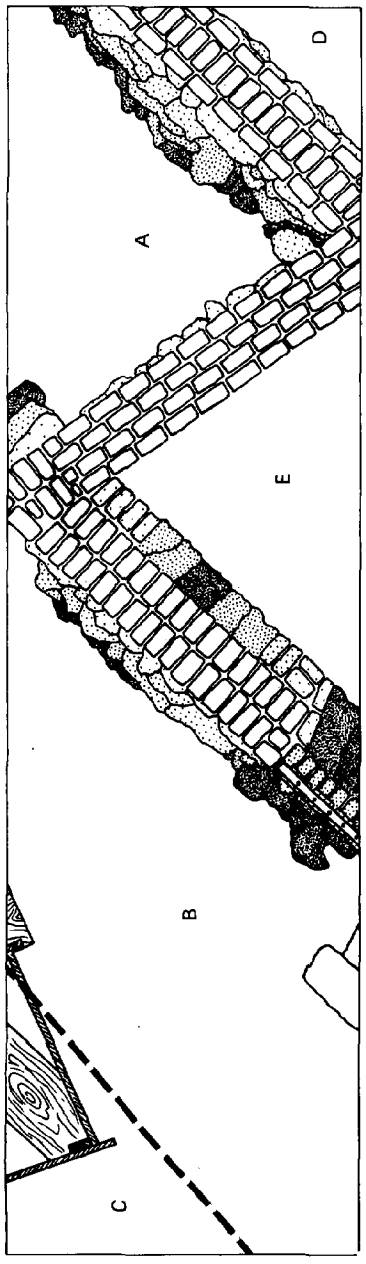
Market Square derives its name and its character as a commercial area, and so it has been studied. It is easy to forget that since settlement, it also has been host to generations of residents. An account of some occupants of this area was preserved in the archaeological materials from Area 4, Watkins, a site already introduced in the previous chapter in connection with the construction of Merchant's Row. Excavation outside the row building yielded two contrasting assemblages of household trash, the first from an 18th century residence, the second from a 19th century boarding house. The former materials were derived primarily from a privy discovered in the lowest levels of the excavation, but also included some contemporary refuse from outside the privy as well. The second accumulation came from an alley between the foundations of the boarding-house and Merchant's Row. Because so little has been recorded about these downtown residents, the artifact assemblages are all the more significant.

Watkins Excavation Plan

Because so many features were discovered here, it is convenient to present them in a series of three plan views made at progressively greater depths (Fig. 4.1). The features in each plan are at equal elevations, but of course are not necessarily contemporaneous. The views show that above the privy (Plan III) were two granite foundations from 18th and 19th century frame buildings (Plans II and III). They also show the southeast corner of Merchant's Row, with its basement entrance bricked up, and a window grate installed in its place. Offset from this corner is the abutting wall of the latest Merchant's Row addition, set upon granite footings. A triangular extension to the main trench appears in Plan I, an addition which was dug to define the limits of the upper granite foundation. Excavation was halted at a depth of 60 cm in this area when the corner of the building in question was discovered.

Using the same strategy employed in all the other areal excavations, the data were segregated into five major associations. Zone A was an open area behind Merchant's Row. Zone B was the narrow alley between foundations or features. The remaining zones, C, D, and E refer to the various constructions and their contents.

Some important relationships between these zones can be understood by studying the fragments of kaolin pipes, such as the ones shown in Fig. 4.2. Ever since J.C. Harrington (1954) noted the regular decrease in bores of 17th and 18th century English pipestems, stem fragments have been used to date historic refuse. Hundreds of stem fragments were found in the Watkins excavation, and as all diagnostic specimens appear to have come from England or Scotland, they can be interpreted according to Harrington's principle (Fig. 4.3). Lewis Binford (1962) published a regression formula which translates the mean bore diameter of a sample of pipestems into an absolute date. His formula is used here as a matter of convenience, as dates are more memorable than pipestem bores. The Binford calculation, however, was not meant to apply to stems made after the mid-18th century. Calculated dates later than 1740 should be considered suspect, for the specimens may be far more recent than these figures suggest. Nevertheless, the general principle holds through the middle of the 19th century that pipestem diameters became progressively smaller, and the technique, although less sensitive for dates later than 1740, should be useful for relative



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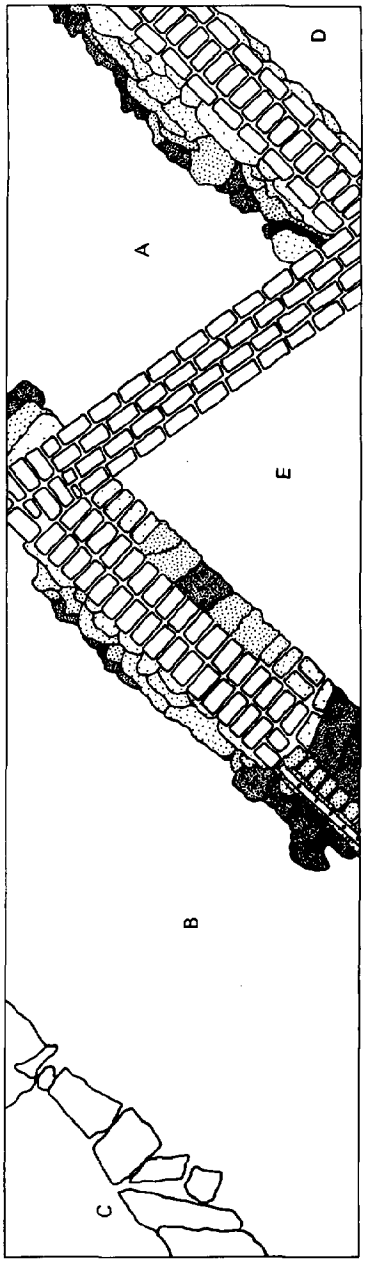

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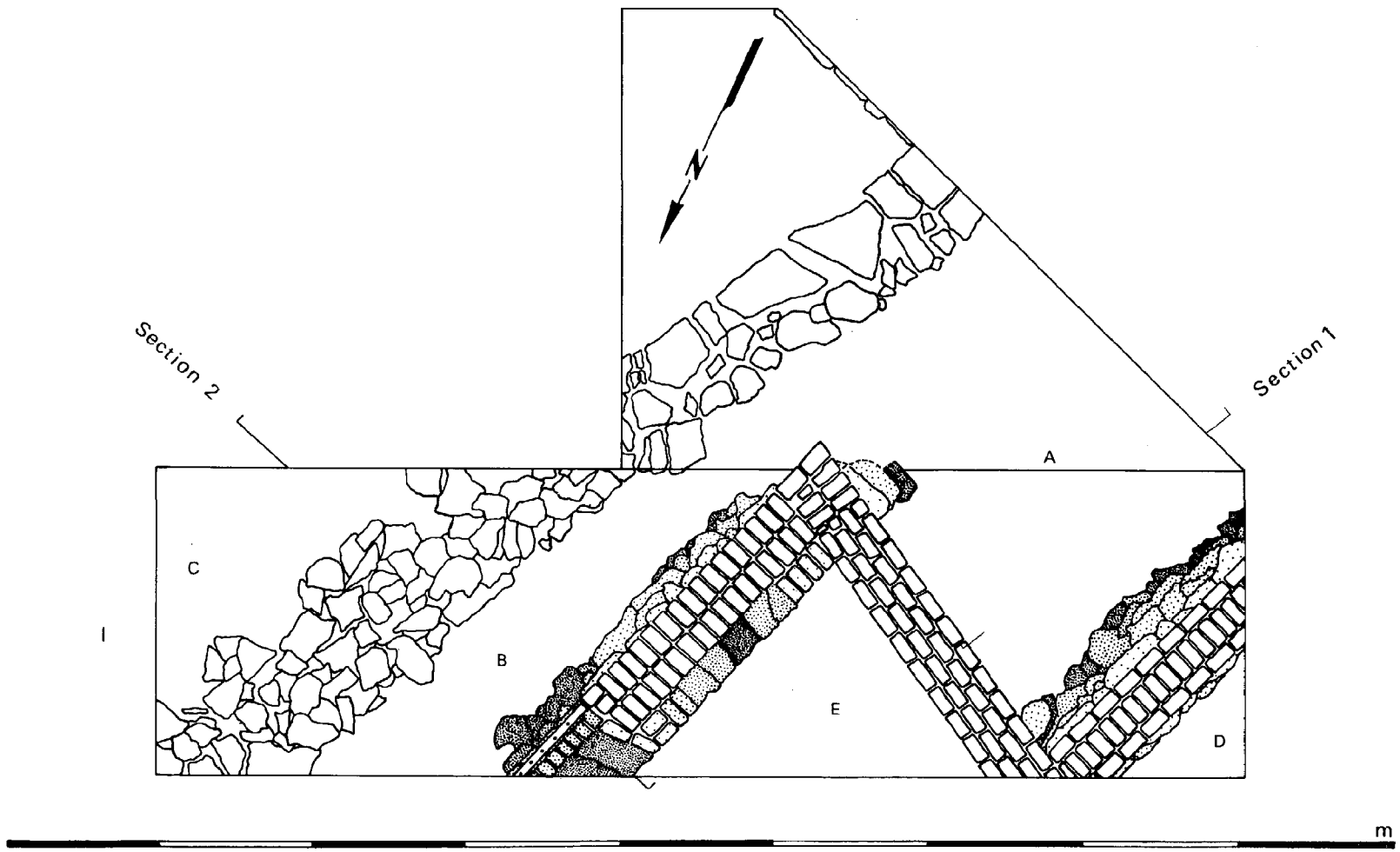


Fig. 4.1. Area 4, Watkins, excavation plans. I, Horizontal section at 0.50 m below surface showing brickwork of Merchant's Row and granite foundation of a 19th century boardinghouse. II, Section at 1.4 m below surface, showing granite footings for a late 18th century outbuilding. III, Section at 2.4 m below surface, showing the corner of the Hale-Watkins privy, framed in wood. Archaeological materials were grouped by major associations, indicated as zones A-E.

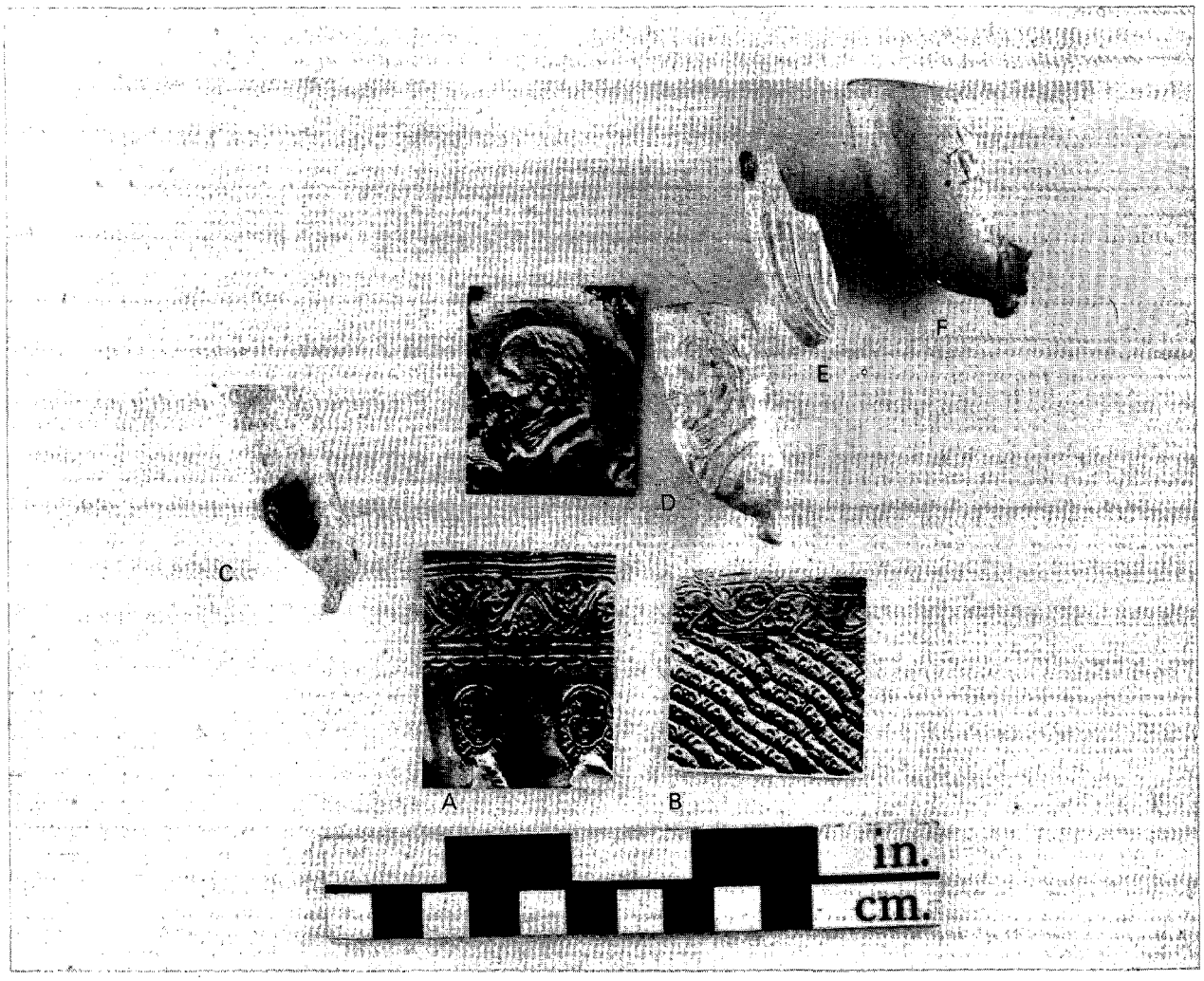


Fig. 4.2. British kaolin pipe fragments from Area 4, Watkins. A, Pipestem impression bearing the coat of arms of the city of Chester, early 1700's; B, pipestem impression, probably early to mid-18th century; C, English pipe bowl form, early to mid-18th century; D, portrait bowl (unidentified), probably early 19th century; E, mid-18th century English bowl; F, late 19th century "T D " pipe, Glasgow.

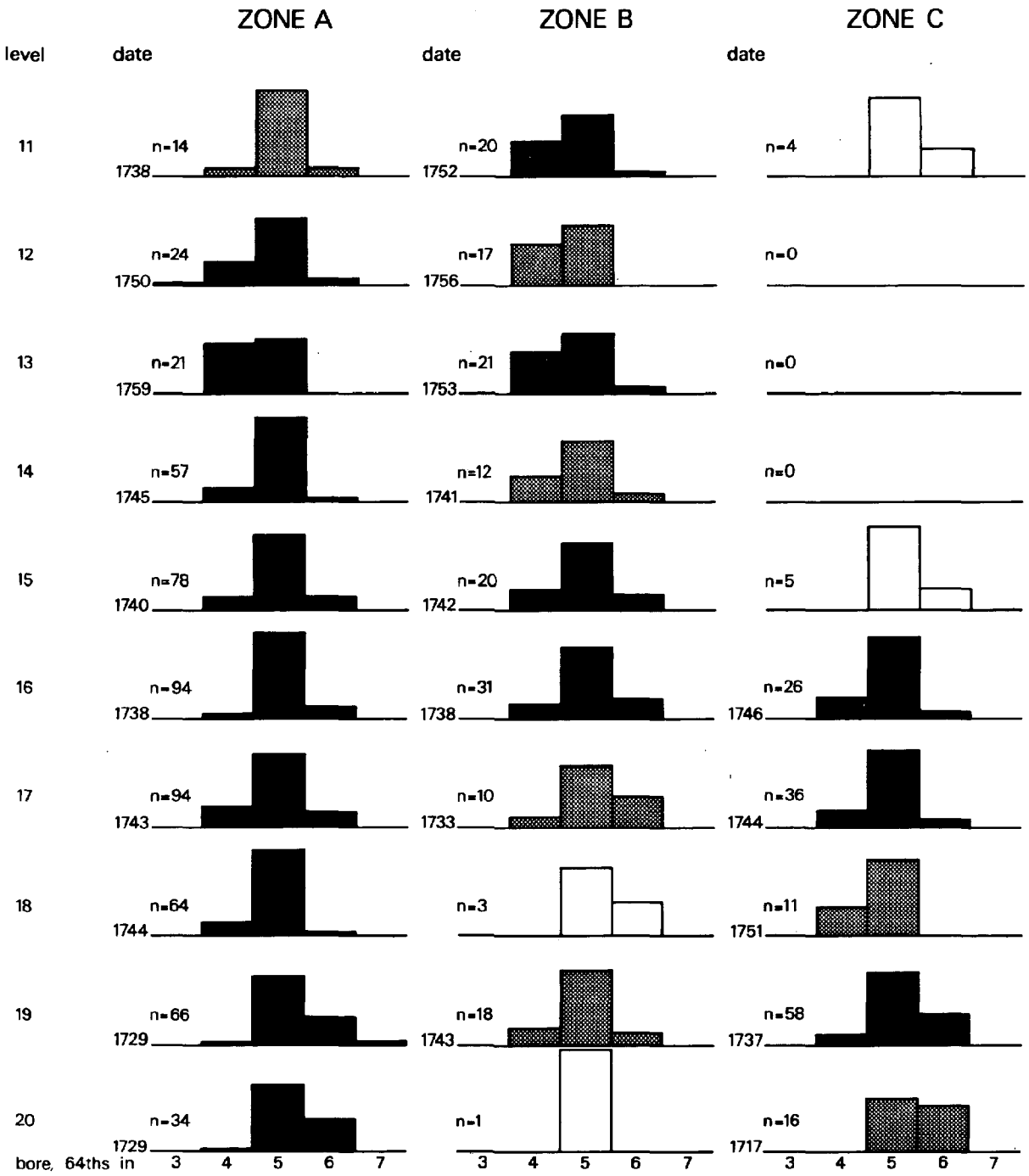


Fig. 4.3. Pipestem bore data, Area 4, Watkins. Calculated dates are based on the Binford (1962) regression formula, as a matter of convenience, and are not intended to be accurate measures of the antiquity of the specimens; dates later than 1740 are suspect. The uppermost level (10) contains recent refuse, and has been omitted.

dating. Figure 4.3 presents data from 20 cm arbitrary levels in zones A, B, and C; zones D and E are omitted, as they contained only recent fill.

The most continuous and regular sequence of dates comes from Zone A, which shows a gradual but definite shift in the distribution of bore diameters. Although these pipestem collections were made by arbitrary levels with no attempt to sort out those stems which might have come from intrusions, the series shows a general trend toward larger pipestem bores with increasing depth. Bore dates seem to indicate the relative age of sediments. The date "1729" for levels 19 and 20 is probably quite accurate, and suggests that these deposits are significantly older than the overlying materials. They correspond to early demolition and construction layers mentioned in the previous chapter, and probably date the initial filling of the surrounding cove.

The pipestem record also helps to define the privy and the two foundations about it. In contrast to Zone A, which shows a rather regular accumulation of pipestems with no clear interruption, Zone C has practically no pipestems at all in the upper six levels. This clearly delimits the depth of the upper cellar, where 20th century demolition fill was found. The succeeding levels, 16 and 17, produced several pipestems from the fill of the lower granite footings, Plan II. These were approximately contemporaneous with samples from the same levels in Zone A, the land surface created when the wetlands were filled. Pipestems were found within and beneath these footings even in level 20 where the privy was encountered. Yet the privy itself contained not a single pipe fragment among the dozens of other artifacts. This led to pit-side speculation that the privy owners were non-smokers, and that the head of the household may have been a single woman--a guess which would be tested against historical information.

The pipestem data clearly reflect the intrusion of the Merchant's Row foundation trench, but fail to detect the more recent age of the fill above it. Like Zone A, the cove calculations from Zone B suggest a reasonably consistent progression of dates. The lower four levels, however, have very few pipestems. Here the narrow zone is dominated by the Merchant's Row foundation trench, which was apparently filled with comparatively sterile deposits. The upper levels, 11 through 14, come from trash accumulation which built up in the late 19th century in the alley between buildings. The trash covers the Merchant's Row doorway, as well as the later window which replaced it. The calculated dates for the pipestems of these upper levels are more than a century too old, and the bore data are therefore ambiguous, even for relative dating.

Pipestems, of course, were only one of a number of sets of data used to determine the sequence of events at Watkins. Also important were probate and property records, city directories, and diagnostic artifacts. These bits of information were fitted to the stratigraphic record (Appendix A, p. 190) to arrive at the following scenario.

Chronology Review

Recall from the previous chapter that the deepest sediments at Watkins, specifically in Zone A, contained sterile gravels and muck, the slope of which suggested that the site once stood at the edge of a cove. A building must have been erected near the edge of this cove by about 1700, for by 1725 there is evidence for demolition and reconstruction debris. Several decimeters of bone

waste and household trash then accumulated in Zones A and B through the middle of the 18th century. Artifacts from this fill include examples of slip-decorated earthenware, delftware, white saltglaze stoneware, and a few sherds of creamware. Fragments from a globular wine bottle also belong to this period.

Later, the wood framed privy was installed in the cove fill at Zone C (Fig. 4.4). The privy contents were rich in household items, none of which appears to have been made prior to ca. 1745 or later than ca. 1780. This was evidently waste from the Hale-Watkins house, which is identified by property and probate records as standing behind the main row of houses on Water Street, placing it on the edge of the former cove. Presumably some of the trash scattered to the side of the privy in Zones A and B can also be attributed to the Hale-Watkins occupation.

The upper part of the privy frame was broken and some of the contents spilled into Zone B when a new foundation was built directly above the privy. No precise historic reference for this structure has been found, although it may have been a "woodhouse" or woodshed mentioned in an account of the fire (Gilman and Gilman 1811). It appears to have been a modest building, with no basement; the granite footings are not mortared, and are irregular. Associated wrecking debris contains only hand forged nails, suggesting a pre-1795 construction. Under one large stone of the footings was a hand-forged rat trap, probably dragged underneath the foundation by its victim (Fig. 4.5). The trap is virtually identical to the "ordinary English gin," apparently in use at Salem, Massachusetts by 1650 (Russell 1967:113-114). Unfortunately, however, such specimen bears no strike mark which could date it more precisely.

A section of Merchant's Row was built at about the same time as the adjacent outbuilding, and is represented here by its southwest corner. A shell-edged pearlware plate from its foundation trench suggests that this construction dates no earlier than 1790, and that it was therefore an addition to the Merchant's Row nucleus excavated in Area 1. At this time, the space between buildings must have been adequate to allow access to the basement through the doorway mentioned previously. In any case, Merchant's Row was only damaged in the 1811 fire, whereas the adjacent outbuilding did not survive, and there is no record that it was ever rebuilt. Merchant's Row was expanded by two bays after the fire of 1811, but the abutting brick masonry apparently stands on footings installed before the fire. The footings may have belonged to an earlier frame addition which had to be replaced.

In the middle of the 19th century, a foundation was excavated on the site of the earlier privy and outbuilding. By 1858, several unrelated people claimed this address as their home, suggesting that this was a boarding house or tenement (NCD 1859). Construction of this building so close to Merchant's Row may have made the basement doorway superfluous, and perhaps even hazardous to small youngsters at play. By 1860 the doorway was replaced by a basement window fitted with protective wrought iron bars. Mid-18th century trash rapidly accumulated in the alley, Zone B, and by 1900 the window itself was partially covered.

The Watkins sequence provides two very different assemblages of refuse for comparison, both derived from residents of the Central Waterfront. The earlier dates to the Colonial Period, when Newburyport was a thriving coastal town built around its harbor facilities. The second assemblage, fully a hundred years

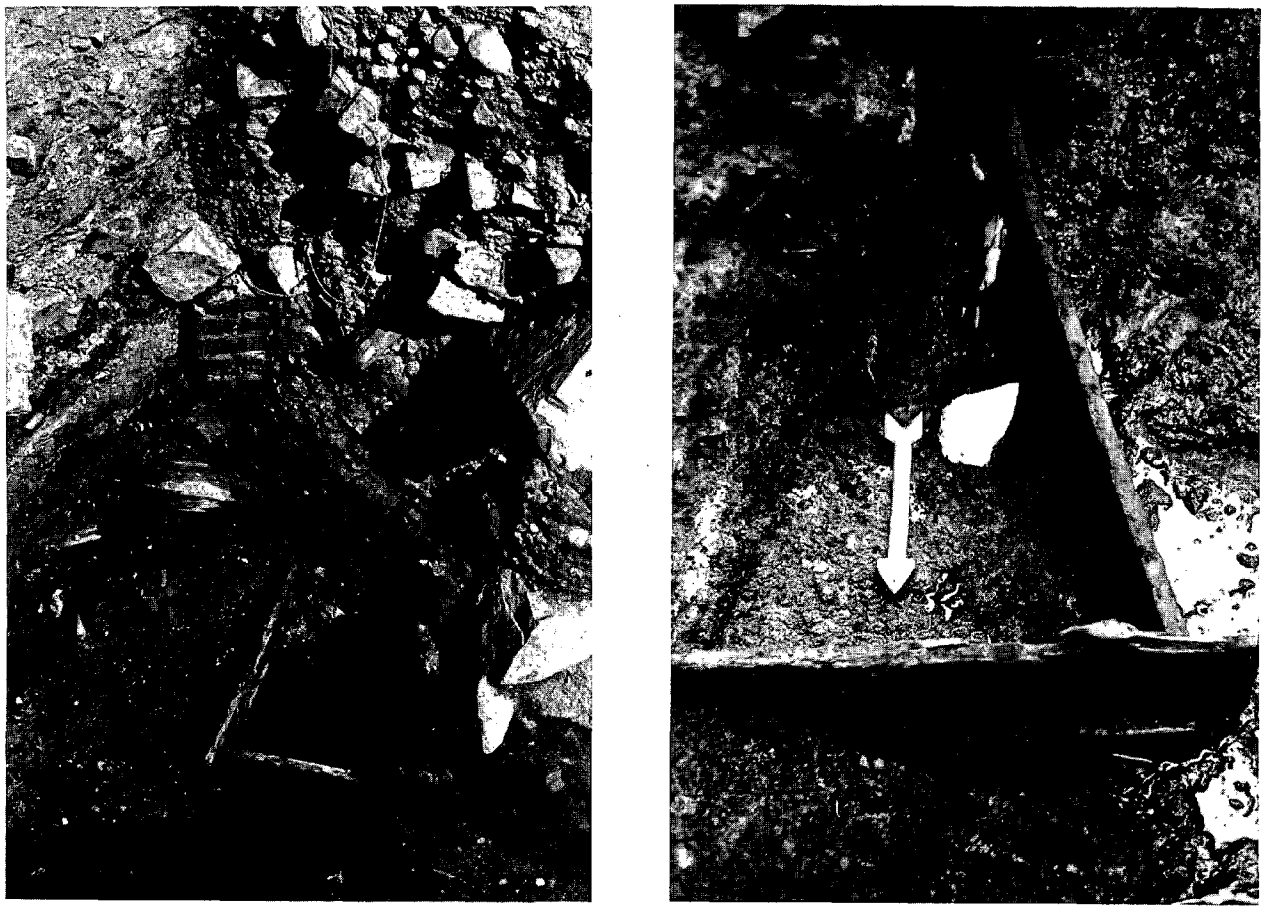


Fig. 4.4. Hale-Watkins privy, Area 4. A, Corner of wood framed privy, after overlying foundations have been removed; note overlying demolition debris from cellar hole fill. B, Detail of privy frame, showing creamware plate, and cylindrical bottle after partial excavation.

Fig. 4.5. Common English gin (rat trap) found under late 18th century outbuilding foundation at Area 4.

younger, accumulated when the waterfront was dominated by industrial facilities. The contrast between these neighborhoods and persons who lived in them is striking.

Hale-Watkins Household 1745-1821

Speculation in the field that the privy refuse might have been derived from a single woman was at least partially correct, but the historical facts are somewhat more involved.

The household represented by the privy was originally headed by Dr. Nathan Hale, a lineal descendant of one of Newbury's original settlers (Hale 1889:86). Hale was a physician who had considerable influence in the community, and for many years served as justice of the peace. He acquired considerable real estate during his lifetime, including farmland in central Massachusetts and southern New Hampshire, as well as business properties and tenements in Newburyport. In 1760, the aging Hale apparently occupied a house behind the shops and rental properties which he owned on Water Street. With him were his wife, Elizabeth, a widowed daughter, Elizabeth Hale Watkins, Mrs. Watkins' three children, and a negro slave, Quash. Dr. Hale's unstable son, Nathan, may also have lived with them or in one of the adjacent Hale-owned buildings. Although the younger Nathan was a college graduate, he apparently could not be trusted to manage his own affairs (ECPC 12159). The burden for taking care of Nathan, the elder Hales, and the three children must have fallen on Elizabeth Watkins and Quash. In compensation, her father gave Elizabeth a large share of the family household possessions before he died (ECRD 124:272). Listed among these belongings, between his chaise and his two largest brass kettles, was Quash. Upon the death of the elder Hales in 1767 and 1768, Elizabeth shared most of the balance of their belongings with Nathan. She was named executrix of the estate and, in effect, held Nathan's share in trust.

The unstable son may have lived for a time with his sister and her children, but died in 1775 at the age of 55. Elizabeth continued to reside here until her death, ca. 1799 (ECRD 164:113). In 1810, this property was in the hands of her son, "Billy Watkins, an eccentric old bachelor ... one of the notorieties of the town" (Emery 1879:232). In 1811 the Great Fire claimed the Hale-Watkins buildings, listed as "2 dwelling houses, 2 stores, 2 back stores and woodhouse, 1 store unoccupied" (Gilman and Gilman 1811). There is no indication that William Watkins was able to rebuild after the fire, and in 1821 the property was sold at an auction to support him in his old age (ECRD 226:144-145). This marked the end of the estate built up by Dr. Nathan Hale.

During the time that most of the privy rubbish accumulated, Elizabeth Watkins managed the household, caring for various family members. In 1780, the approximate date of the privy's abandonment, Widow Watkins was 58, and probably lived alone. The privy contents, some 120 items, were mostly domestic trash. Liquor bottles were common, as were glassware and china from table settings. Pharmaceutical vials were also present together with chamber pots and mixing bowls.

A representative sample of the Hale-Watkins glassware appears in Fig. 4.6. Ten or more free-blown and blown-in-mould glass flips were found, most of which were plain. At least four, however, were wheel-engraved like specimens A and B.

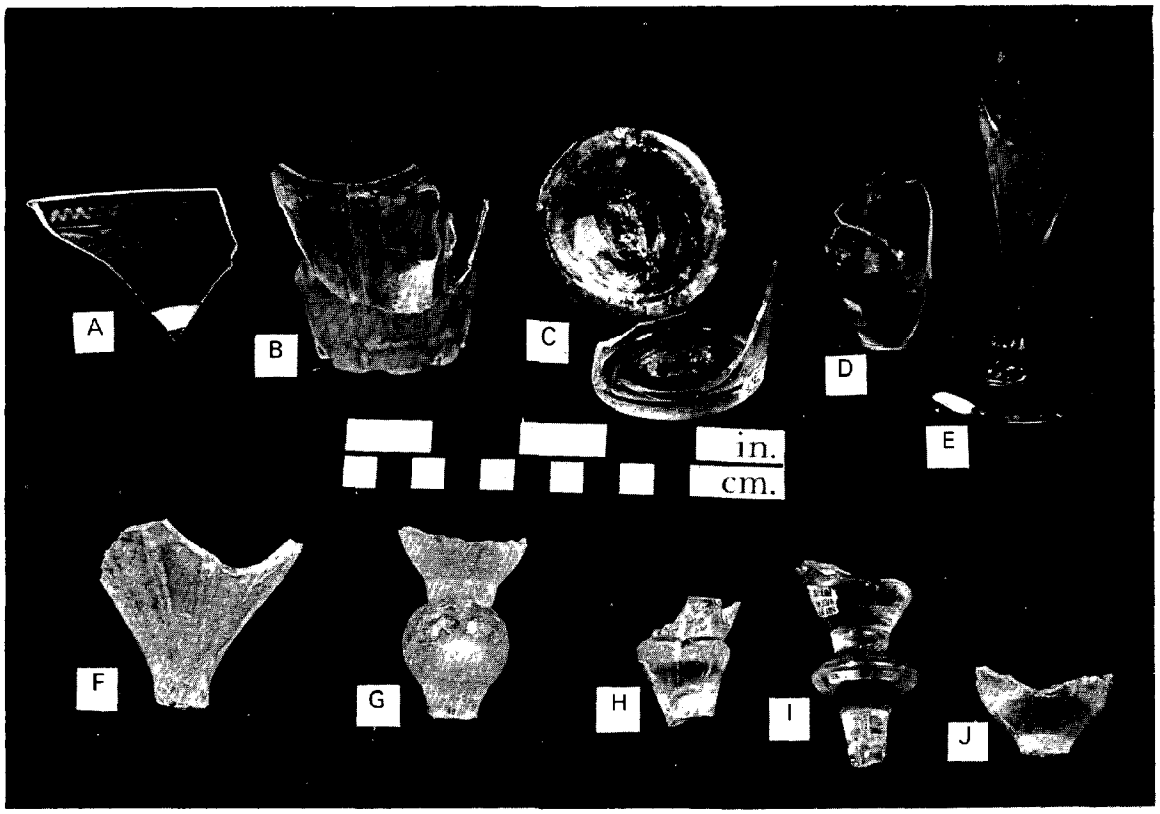


Fig. 4.6. Glassware from the Hale-Watkins household. Specimens A-E recovered from within the privy; F-J found outside the privy in levels believed to be contemporaneous with the Hale-Watkins occupation. A, Rim of a wheel-engraved glass tumbler or flip carrying a common design, often attributed to Stiegel. B, Fluted, blown-in-mould, wine flip with wheel engraved design similar to A and also often attributed to Stiegel. C, Plain, clear glass tumbler bases with rough pontil marks. D and E, Wine glass, and wine glass bowl, English; E has a cut, fluted stem with seven facettes, popular ca. 1770. F, Goblet bowl with applied string ribs, unidentified. G, Inverted baluster knop from drinking glass stem, early 18th century. H, Quatrefoil stem, late 17th century. I, Stem with angular knop, early to mid-18th century. J, Unidentified bowl fragment.

Fluted wine flips like B were already being produced by American glassmakers, the most famous being "Baron" Henry von Stiegel, whose glassworks in Manheim Pennsylvania were in operation from 1763 to 1774 (Hunter 1950: Fig. 115; Robertson 1969:131). Two wine glasses, D and E, were also found in the upper privy refuse, the latter surviving almost intact. This was an imported British specimen, having a seven sided stem popular in 1770 (Ash 1975:78). Other glass stems shown were found in Zone B, outside the privy, and date from the first years of the 18th century. Attractive as these items are, they were well within the means of the families with moderate incomes, and do not imply any particular affluence. This was probably everyday glassware.

Dr. Hale's family had a representative sample of moderately expensive fine earthenware imported from Great Britain (Fig. 4.7). The service with which Quash may have served tea to the family was of very fine, plain creamware, and boasted an elegant teapot with a fancy molded handle. Plates, also of creamware, were molded in the "royal" pattern, popular in the third quarter of the 18th century. Adults may have drunk rum from the tall mugs that were apparently a part of this set. A steel knife blade, found with this setting, shows the rounded end typical of this period. The maker, "SHEMEL," unfortunately could not be identified.

Other tableware belonging to the family testifies to the developing competition between British and Chinese ceramics in the second half of the 18th century. Two specimens of Chinese export teacups were found, one painted in blue with a solid brown glaze exterior, and another decorated in black and gold designs applied on top of the glaze (Fig. 4.8). In imitation of the vitreous china of the Chinese, British potters produced pale earthenwares decorated in pseudo-Chinese patterns, represented here by a teapot lid and large tea bowl. The saltglaze stoneware, also found in the privy, may date somewhat earlier, for it was most popular in the mid-18th century (Fig. 4.9). The elegant scratch blue bowl represents a by-product of earlier British competition with the gray stoneware of Rhenish potters.

Like the glassware, then, the Hale-Watkins table setting was elegant, but common. Shiploads of these very wares were regularly exported from Britain into the colonies where they would find a steady market. On the whole, these were not considered luxury items; whatever wealth the family possessed was not flaunted by these mundane household possessions.

Virtuous as Dr. Hale is recorded to have been, it is clear that his family enjoyed regular libations. In the small section of privy which was sampled, at least a dozen free-blown English and French wine bottles were represented, some of them nearly complete (Fig. 4.10). Two bottles were slightly globular, shapes popular ca. 1740, but the rest were cylindrical types, probably made between 1755 and 1785 (Noel Hume 1970:65-68). Fragments of three case bottles, often identified as "Dutch gin bottles," were also discovered. Containers of this type are roughly contemporary with the other glassware.

The most elegant of all the presumed liquor bottles was a delicate, painted "cordial bottle," (Fig. 4.11A). The figure of a youth in 18th century dress appears on one side, with a saying of some sort in old German script on the other: "... Mein kind und...." The bright enameling is done in red, yellow, blue, green, and black. Again, this specimen is similar to ones which have been attributed to Stiegel (Hunter 1950:Plate VII and Fig. 142). Although this may

Fig. 4.7. Hale-Watkins fine creamware tea service and table setting. A, Teapot with elegant double strap handle in acanthus leaf motif; B, cup and saucer or shallow bowl; C, mug with acanthus leaf handle; D, creamer; E, dinner plate in royal pattern, ca. 1770; F, knife blade embossed "SHEMEL." All specimens found within the privy except C, assembled from fragments in Zone B.

Fig. 4.8. Oriental motifs on Hale-Watkins ceramics. A and B, British creamware; C and D, Chinese export porcelain. A, Teapot lid, underglaze blue; B, tea bowl, underglaze blue; C, porcelain cup, overglaze black and gold; D, porcelain cup, underglaze blue interior, solid brown glaze exterior. All specimens from within Hale-Watkins privy.

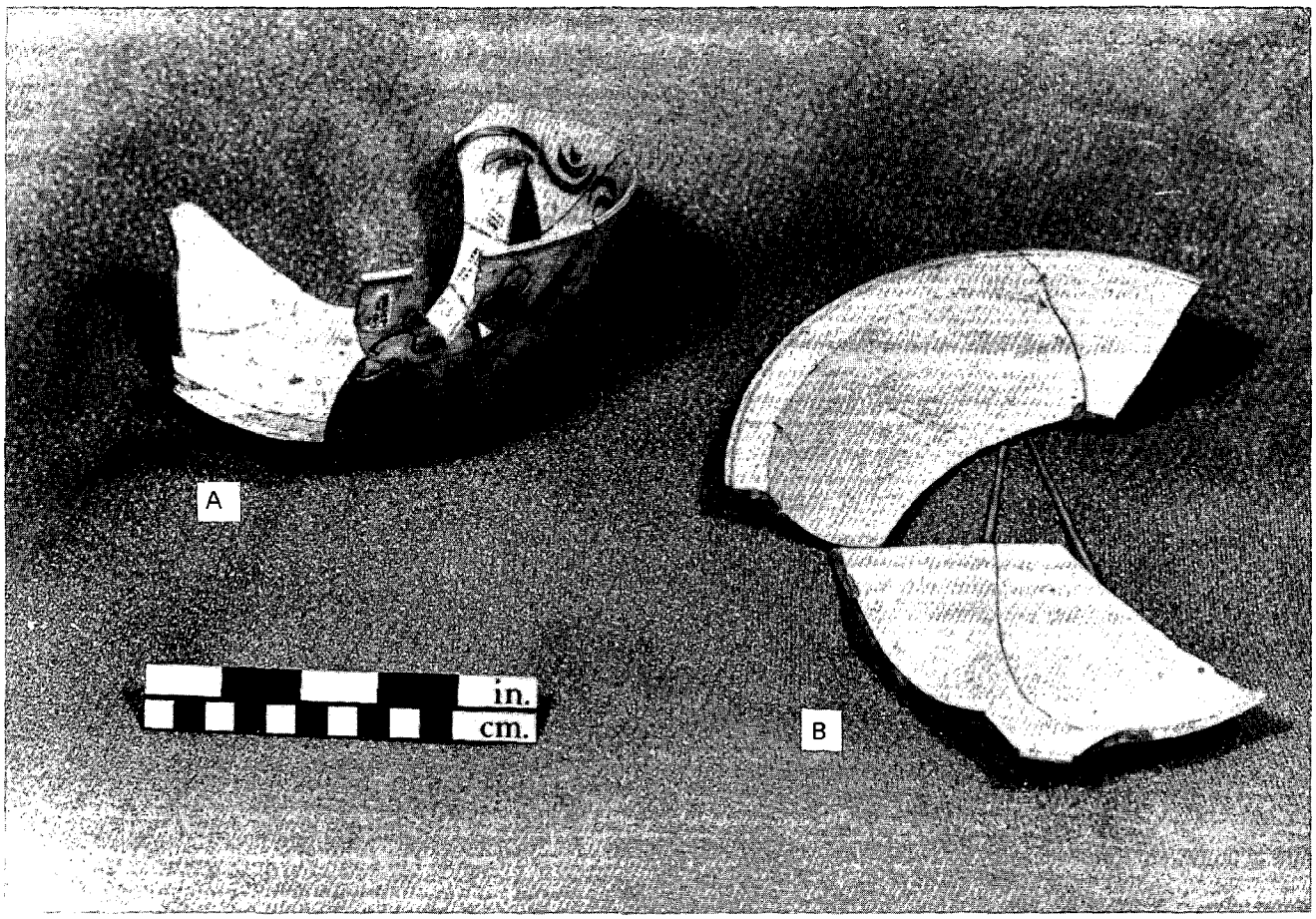


Fig. 4.9. British white saltglaze stoneware from the Hale-Watkins privy. A, Scratch blue bowl, with motif matching pitcher from Williamsburg, Va. dated ca. 1755 (Noel Hume 1969:18); B, plain white saltglaze soup plate, third quarter 18th century.

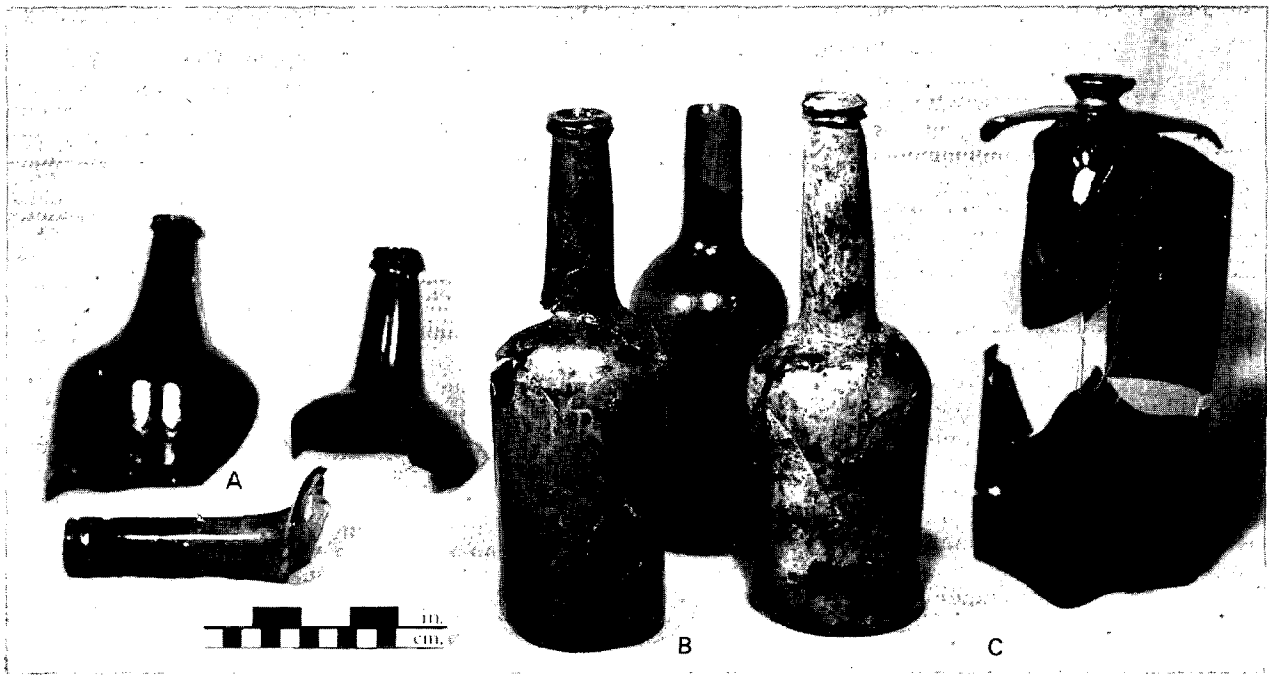


Fig. 4.10. Common bottle types from the Hale-Watkins privy. A, Globular, or squat, cylindrical wine bottles, shapes popular as early as 1740, but possibly as recent as 1780 (compare Noel Hume 1969:41); B, cylindrical wine bottles, probably British, 1755-1785; C, case, or "Dutch Gin" bottle, 18th century.

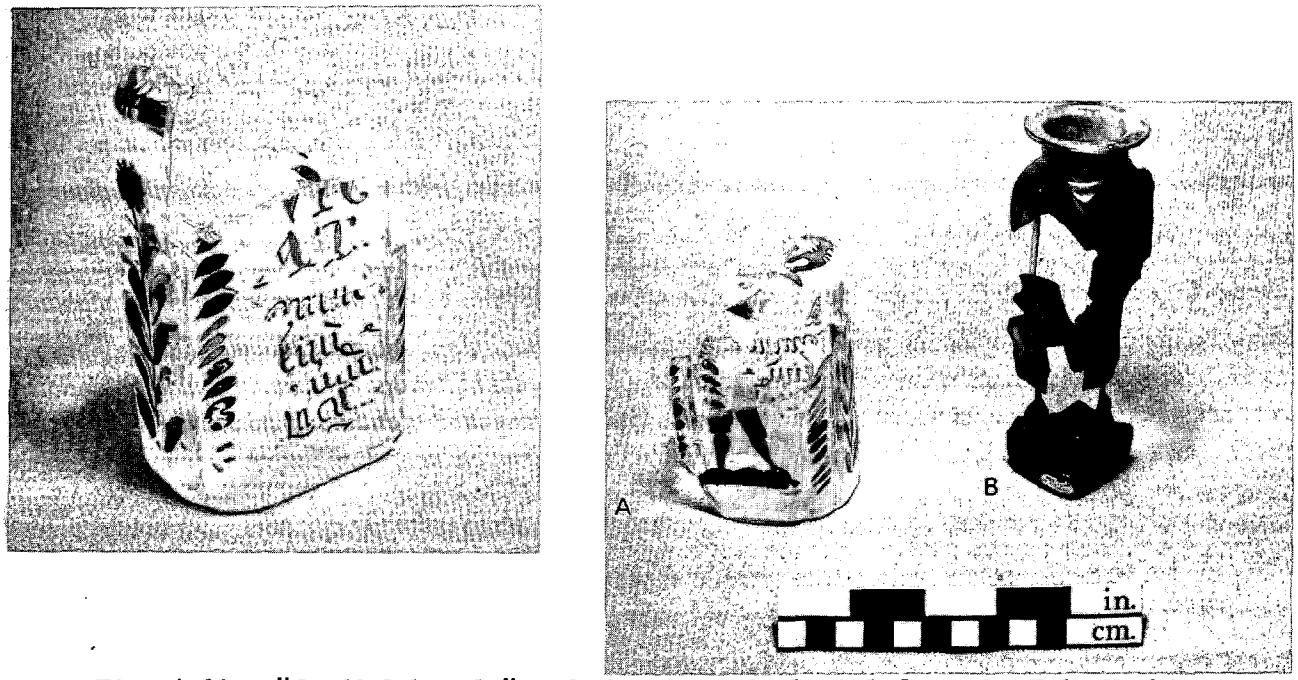


Fig. 4.11. "Cordial bottle" and pharmaceutical vial from the Hale-Watkins privy. A, Stiegel-type enamelled bottle in red, yellow, blue green, and black, German or German-American ca. 1770; B, amber pharmaceutical vial, hand blown in case form.

represent Stiegel's work, or that of another German-born glassmaker in Colonial America, German inscriptions are apparently more common on imported specimens.

Five or six of Dr. Hale's pharmaceutical vials are also represented in the privy, but the walls of these thin cylindrical bottles were too thin to reassemble. A rectangular specimen made of a distinctive amber glass was reconstructed, however, and is shown here (Fig. 4.11B). The bases and rims of four rectangular wide-mouthed jars were also found, but their significance is unknown.

Many other items in Area 4 date from the same general period as the Hale-Watkins privy, but were not directly associated with that feature (Fig. 4.12). Interestingly, these trash items included a higher percentage of baser utensils: chamber pots, red earthenware crocks, and other such items. Complementing the locally made red earthen ware are imported specimens with combed-slip decoration. The mug, A, is a British import, manufactured in Staffordshire or Bristol between 1750 and 1775, and is virtually identical to a specimen from Williamsburg, Virginia (Noel Hume 1969:26). The Rhenish chamber pot, D, also has a counterpart in the Williamsburg collection which is identified as an early 18th century Westerwald stoneware, manufactured for the British market (Noel Hume 1969:28). The source of the crucible, E, is not clear, but it may have come from one of the shops leased by Dr. Hale. The find is contemporary with the evidence for metalworking discovered near by in Area 3, and discussed in the previous chapter.

Certain details in the artifact record amplify our knowledge of Dr. Hale's political concerns, or those of his family. Historically, we know that at the age of 19, Dr. Hale served as assistant surgeon in an assault launched by British Army regulars and 4000 colonists against the French outpost at Port Royal (later Port Annapolis), Nova Scotia. This was the American manifestation of Queen Anne's War, a determined effort in 1710 by the British and other naval powers to assure that Louis XIV would not make good his claim as successor to the Spanish throne. The archaeological remains found in and around the privy suggest that this was not Dr. Hale's last commitment to political struggles originating overseas. A wine bottle, tossed into the privy and retrieved almost intact, bears the inscription "IR" crudely scratched on its outer surface (Fig. 4.13B). In any other temporal context, this bottle might be construed as the personal property of anybody having these initials. But in the decade following 1745, "IR" was frequently engraved on British goblets and other glassware (Crompton 1968:118). The reference was to the cause of the Stuart family, which lost the British crown in 1688 when, as a result of his liberal stand toward Roman Catholicism, James II was exiled to France. In 1745, Charles Edward ("Bonnie Prince Charlie") returned to Scotland in an attempt to establish his father as King James III of England (James VIII of Scotland). This final effort of the Stuart family to reclaim the throne gained many sympathizers, and although this rebellion was crushed by 1747, it was remembered in symbolism throughout the British world. In this case, IR stands for Iacobus Rex, i.e., King James.

Another bit of political propaganda is represented in a saltglaze plate (Fig. 4.13A) bearing a well-known inscription. In its entirety, the plate would read "SUCCESS TO T[HE KING OF PRUSSIA AND HIS FORCES]" (Noel Hume 1970:116). Finding this plate in Newburyport is a reminder that the French and Indian War was, in fact, a part of a European conflict, and involved more than disputes over North American boundaries. The British, interested in protecting their own principality in Hannover, supported Frederick the Great in his battle with

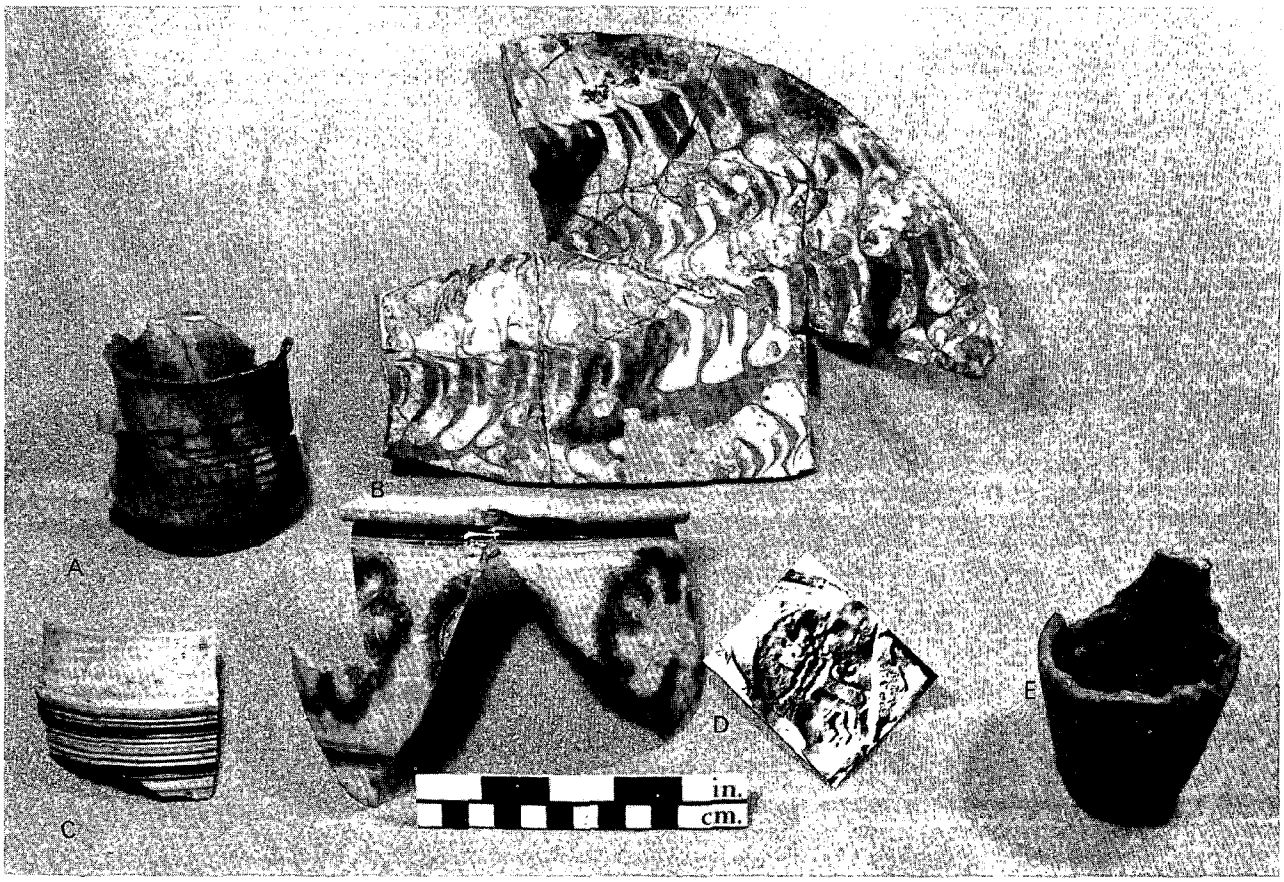


Fig. 4.12. Middle to late 18th century ceramics from Area 4, tentatively assigned to the Hale-Watkins occupation. A, Combed slipware mug, brown through yellow, thought to be made in Bristol or Staffordshire, ca. 1765. B, Combed slipware 15 in platter, brown through cream with copper green splotches; probably third quarter 18th century. C, Rhenish gray stoneware mug rim with cobalt blue banding, 1740-1760. D, Rhenish gray stoneware chamberpot with alternate sprigged, rampant lions and stamped rosettes in cobalt blue, 1710-1765 (Noel Hume 1970:281). E, Ceramic crucible, source and significance unknown.

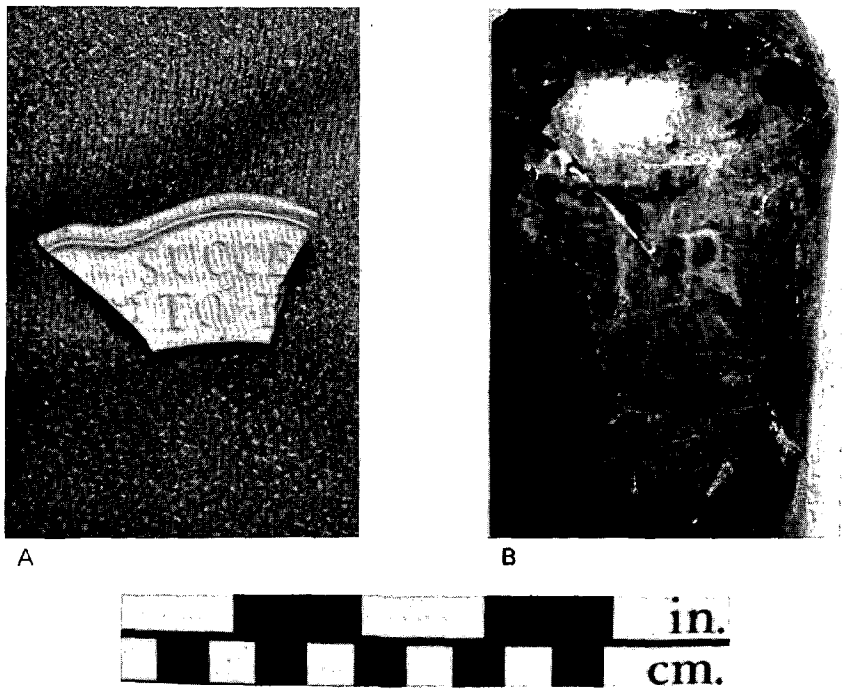


Fig. 4.13. Political inscriptions on household items from the Hale-Watkins privy. A, British saltglaze stoneware, embossed "SUCCESS TO THE KING OF PRUSSIA AND HIS FORCES," a slogan supporting Frederick the Great during the Seven Years' War, 1755-1763. B, English wine bottle with rude inscription "IR" probably representing "Iacobus Rex," i.e. King James, in sympathy with the second Jacobite rebellion of 1745-1747.

the French and Austrians over control of Silesia. Naturally, as loyal British subjects, many colonists must have supported King Frederick as well.

The implications of the trade pattern and the political events reflected in the Hale-Watkins trash give us a clearer picture of the port of Newbury immediately prior to the American Revolution. Dr. Hale was a fourth generation citizen of Newbury, and yet he apparently considered himself beyond all other allegiances to be an English citizen. Although his home was situated on the waterfront, there is no historical evidence that he ever took part in any shipping investments, or that he or any member of his immediate family ever traveled to the Mother Country. Yet his allegiances were almost pre-determined in a seaport whose immediate prosperity was founded on trade with Britain and with other British colonies.

Dr. Hale, moreover, was an influential man, actively interested in community affairs. In 1759, he brought a petition before the town meeting for the purchase of a fire engine, which was apparently approved. Though his petition the following year for the repair or rebuilding of the Town House was denied, there is no question that he was a responsible and respected community member (Coffin 1845: 221, 225). As he was a slave owner, which at the time was ostensibly illegal, the community must have tacitly sanctioned that institution.

A tentative picture of the Hale-Watkins family of the 1760's presents them as comfortable, although not wealthy, and almost entirely dependent on the financial resources of the failing Dr. Hale. At the same time, the domestic refuse represents cooking and eating utensils, and suggests that the most active adult was the widowed daughter, Mrs. Watkins, who may have done the bulk of the housework. Hand tools, hardware, horse furniture and related items were not found in the privy trash or in contemporary sediments. In fact, there is nothing in the trash deposits to suggest that there was an able-bodied man living in the house at this time.

Considering the size of Dr. Hale's estate, however, there is no question that the family was well provided for. Minimally, they appear to have eaten a varied diet. Bones from the privy, like those outside, represent cattle, swine, sheep, deer, and large fowl. Also from the privy are quahog shell from the local hard-shelled clam, but, surprisingly, no fish. The fecal matter contains material tentatively identified as eggshell, potato skins, apple skins, onion skins, maize kernals, and seeds of several fruits.

According to a property transfer of 1766, all three Watkins children slept together upon a single pallet on the floor (ECRD 124:272). This was probably a common arrangement in less well-to-do families, but is rather surprising here. Life for the three Watkins children, fatherless and growing up in a house dominated by an elderly couple and perhaps a deranged uncle, may have been austere. Unlike the children who were to play here a century later, there is no evidence in the trash from either the privy or surrounding area that they had any toys. Perhaps they simply played elsewhere, away from the outhouse.

Newcomers -- 1858-1900

Some of the property which Billy Watkins was forced to part with was eventually acquired by Foster Smith, a member of another established Newburyport family.

Smith was evidently a clothier who owned a frame shop annexed to the Ferry Wharf Building, a structure which must have been added after the building code was repealed in 1835. While Smith worked at this shop, he resided in a more fashionable section of town in the family dwelling at "Smith's Court" (NCD 1860). Apparently one of Smith's financial investments was the construction of a frame boarding house or tenement on the land immediately behind his shop. The obscurity of Smith's building and its tenants is reflected even in the address, "rear 11 Water Street." One of the earliest records of its occupancy is derived from the city directory for 1860 (Table 4.1).

Table 4.1. Occupants of boarding house, rear 11 Water Street, 1860.

Name	Occupation	
Mrs. Moses Cavanaugh		
John Dooley	fisherman	
Franklin Fitzpatrick	mariner	(boarder)
James Phillips	mariner	

Mrs. Cavenaugh may then have been running a boarding house, or perhaps she was one of several unrelated roomers at this address. Whatever the circumstances, the building was overlooked in the census of 1860, as none of these people are mentioned.

The boarding house was listed, however, in the census of 1870, and with information from the city directory, a much clearer picture of the people who lived there emerges (Table 4.2).

Table 4.2. Occupants of boarding house, rear 11 Water Street, 1870.

Name	Occupation	Age	Birthplace	Literacy
Michael Tobin	mariner	35	Newfoundland	
Mary Tobin		30	Ireland	
Jere Tobin		3	Massachusetts	
Michael Tobin		10 mos.	Massachusetts	
Ellen Riorden (Rearden)	widow	60	Ireland	
James Ryan	mariner	30	Newfoundland	Illiterate
Ellen Ryan		28	Newfoundland	Illiterate

The personal wealth of the Tobin family is listed at $1500, and apparently they claimed no real estate. The family may have been poor, but certainly was not destitute. The data imply that Tobin, a Canadian, had married an Irish immigrant, and was raising a family in Massachusetts. Mrs. Riorden was probably his mother-in-law.

The Tobins apparently shared the building with another Newfoundland couple, the Ryans, who were illiterate and whose personal property was of no consequence.

James Phillips, mariner, was also living in the building in 1870, but was not included in the census.

The occupants, then, were Canadian-born sailors and their families, some supposedly illiterate, and none of significant property or standing in the community. None of these names occur in any history or account of Newburyport, nor do they appear on Civil War records. In all likelihood, they were Roman Catholics, newcomers in a Protestant world. Regardless of their actual status, they were probably considered transients, barely worth mentioning in the vital statistics of the city.

In succeeding decades, the building may have housed only one family at a time. In 1880, this was the family of laborer Christopher Knox. In 1891, another laborer, John Doherty, lived here. By 1901 the building appears to have been unoccupied. Perhaps it was used by the junk dealer Morris Saltinsky, who worked below the sail maker at 3 Ferry Wharf, and lived at 11 Water Street. In any case, the change in occupancy reflects the death of the sailing ships, and indirectly, the shipbuilding industry of Newburyport.

The neighborhood in which the Tobin children got their start was not an enviable one (Fig. 4.14). The family lived sandwiched in between a large coal pocket, the dilapidated stores of Merchant's Row, and the back of the former Smith clothing shop, later used successively as a variety store and a liquor store. Only a narrow alley with a high fence on its eastern side gave them access to the street.

The household goods found in the alley trash were modest. Like the Hale's dishes, most of the table setting was imported from England, although some pieces evidently came from Ireland (Fig. 4.15). Most is plain, white ironstone, one piece bearing a registry mark dated to October, 1855, and other pieces with marks dating from 1863 to 1890. Generally the appearance of the pottery is functional, antiseptic, and even institutional. These were commonplace, mass produced items with not a hint of elegance. With these dishes was found a single iron spoon, probably representative of the flatware used by these occupants. Locally made stoneware containers, such as a large jug from Charlestown, Massachusetts, were used to store various household commodities (Fig. 4.16).

The domestic trash, then, is very similar in function to that discarded in the Hale-Watkins privy. Dissimilarities between the two assemblages can be explained largely by changes in technology and differences in standard of living. Ironstone mugs and pressed glass tumblers probably substituted for the handsome hand-made wine goblets and flips used earlier. Fragile free-blown glass bottles were replaced by rugged stoneware bottles and jugs, and porous redware crockery gave way to improved stoneware specimens. If tea services were owned, they were apparently not used, broken, and replaced with the frequency of the Hale-Watkins sets, and except for the worn face of a steeple clock (Fig. 4.15H), simple luxuries were absent.

The refuse of the alley was found mixed together with discarded bones and other garbage. Faunal remains also included much shellfish and several fish vertebrae, all to be expected in the families of Catholic fishermen and mariners. Other meats represented were basically the same as those consumed by the Hale-Watkins family, although in this case almost all the bones showed saw marks and had been butchered commercially into comparatively small pieces. Though many

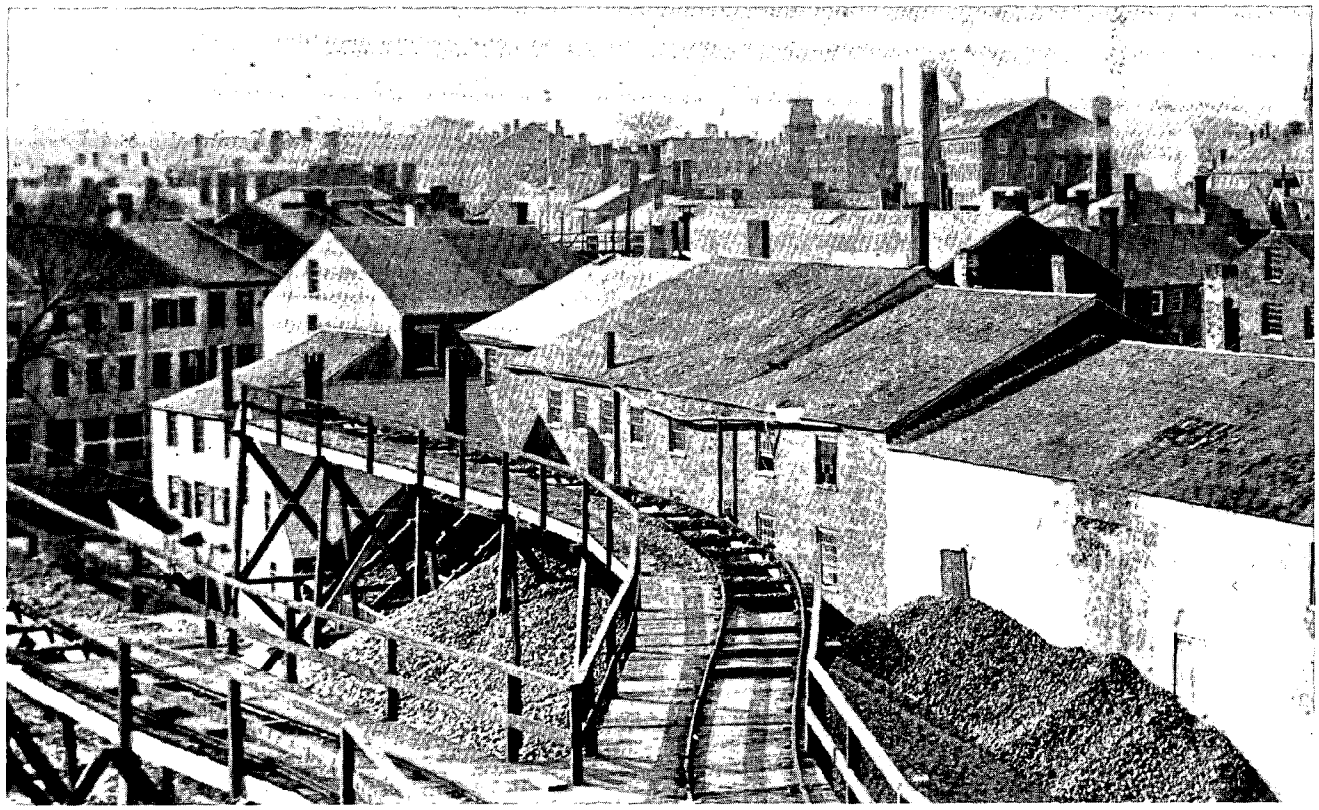


Fig. 4.14. Ferry Wharf Building and Merchant's Row from the Philadelphia and Reading Coal and Iron Company coal pocket, looking southwest, ca. 1880. Note the boardinghouse, left center, partially obscured by the trestle. Photo courtesy of the Newburyport Public Library.

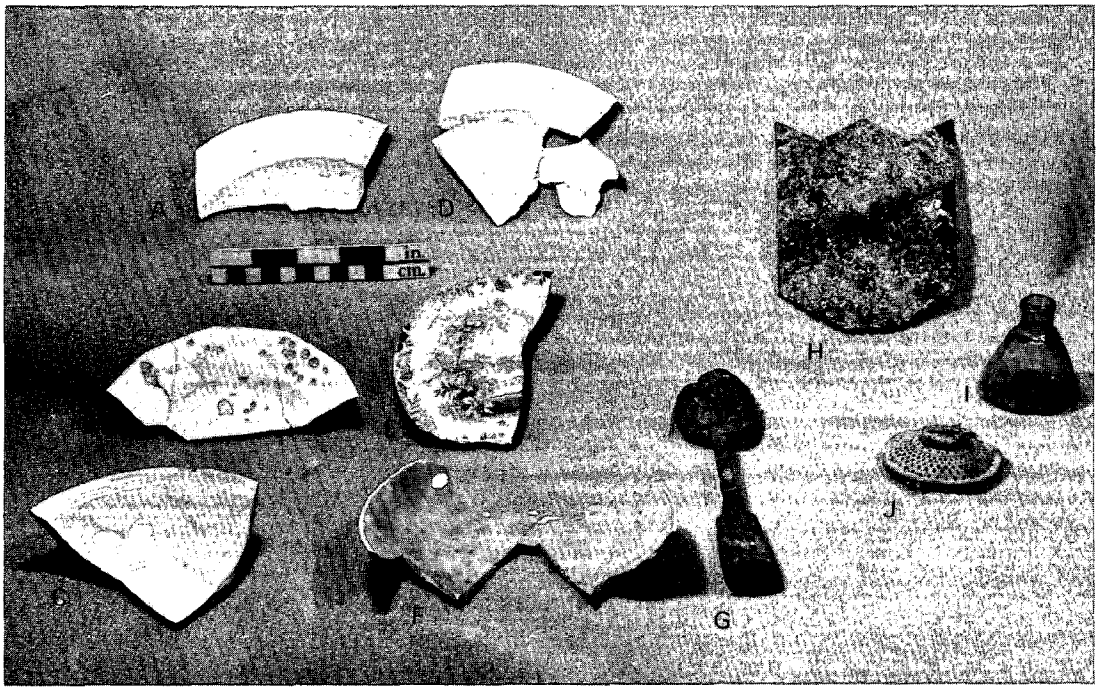


Fig. 4.15. Table setting and household goods from the boardinghouse alley, Area 4. A-D, British ironstone of simple shapes; C bears the registry mark of October, 1855. E, Red transferware marked "Indian Scenery". F, Plain blue ironstone bowl. G, Iron spoon. H, Steeple clock face. I, Green ink bottle with blow-pipe pontil. J, Brass flange, hurricane lamp.

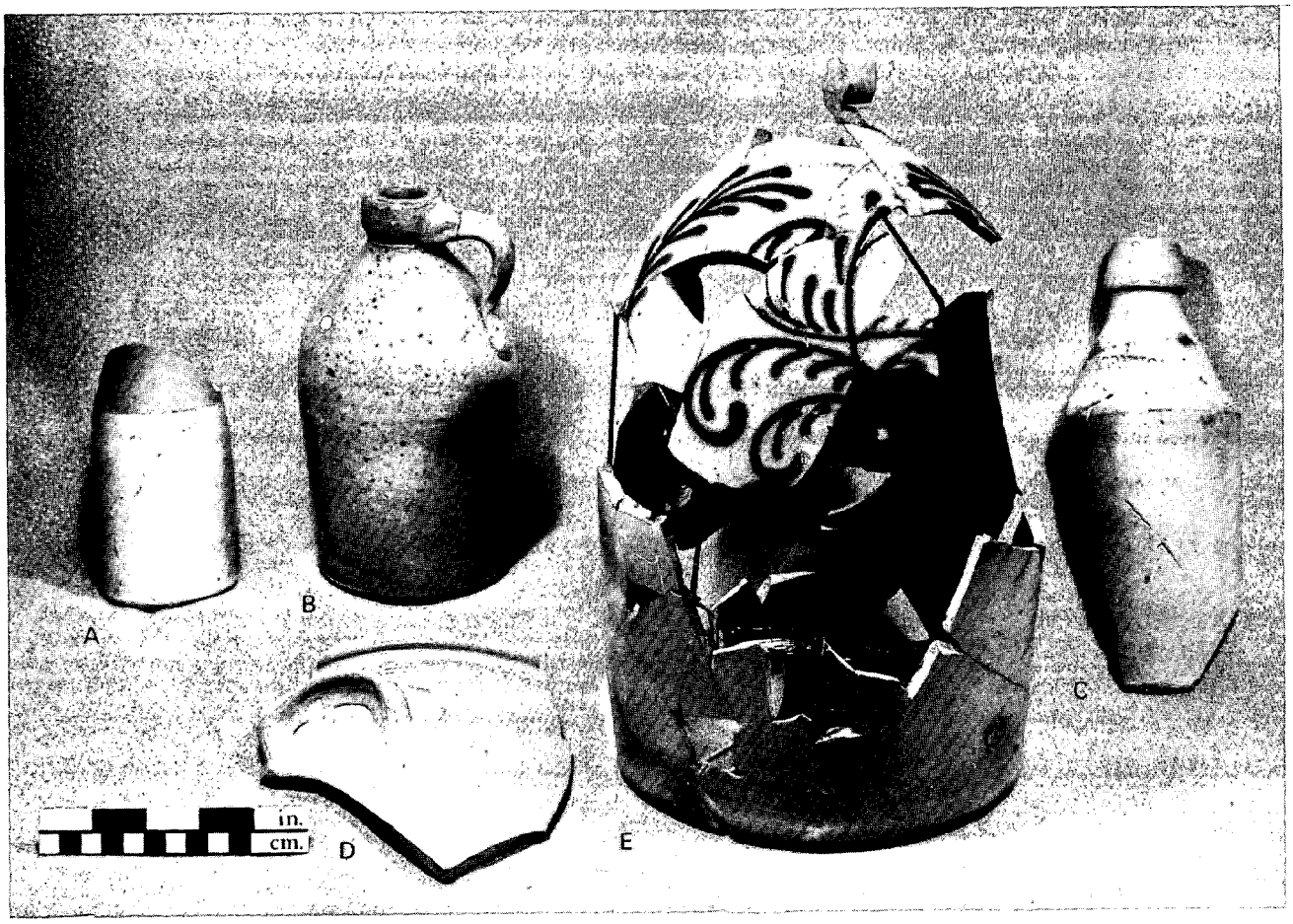


Fig. 4.16. Late 19th century stoneware jugs, crocks and bottles, representative of pieces found in the boardinghouse alley. Specimens A-C were actually found in Area 6, but are identical to fragmentary remains from this site; D-E are from the alley itself. A, One pint cream glazed ginger beer bottle; B, one quart gray to buff stoneware jug; C, gray stoneware quart bottle stamped "McCONNON"; D, buff ledge-handle butter pot; E, gray stoneware two-gallon jug, with foliate design in cobalt blue, made by Edmands & Co., Charlestown, Mass.

choice cuts of meats may have been represented, preliminary examination indicates that many soup bones were represented as well.

The children apparently played amid the trash in the alley beside their house, their only yard. Clearly, parents sought to keep them occupied with an impressive assortment of manufactured toys, many of which were ultimately lost in the dirt of the alley (Fig. 4.17). The tiny tea service and the minature china doll with the moveable arms and legs are traditional representations of some little girl's intended role in life. Clay marbles, a cast iron toy shovel, and a jackknife are almost essentials in toy box inventory of some little boy. Souvenir mugs were given to the children, perhaps to coax them to drink their milk. One cup even bears the enticement, "For a Good Girl," as if to set a future archaeologist straight on the matter.

In spite of the supposed illiteracy of the Ryan family and the transient nature of occupancy, some of the following generation at least saw elementary schooling. Worn-out steatite pencils for writing on school slates were found with the toys in the alley, and ink bottles were found among the trash of toys and pottery. We do not know definitely of the success or failure of this new generation in extricating itself from the waterfront squalor which existed in the second half of the 19th century. We do know, however, that the neighborhood continued to decay. In the early 20th century, it began to be littered with liquor bottles and at times thereafter became the realm of wharfside derelicts.

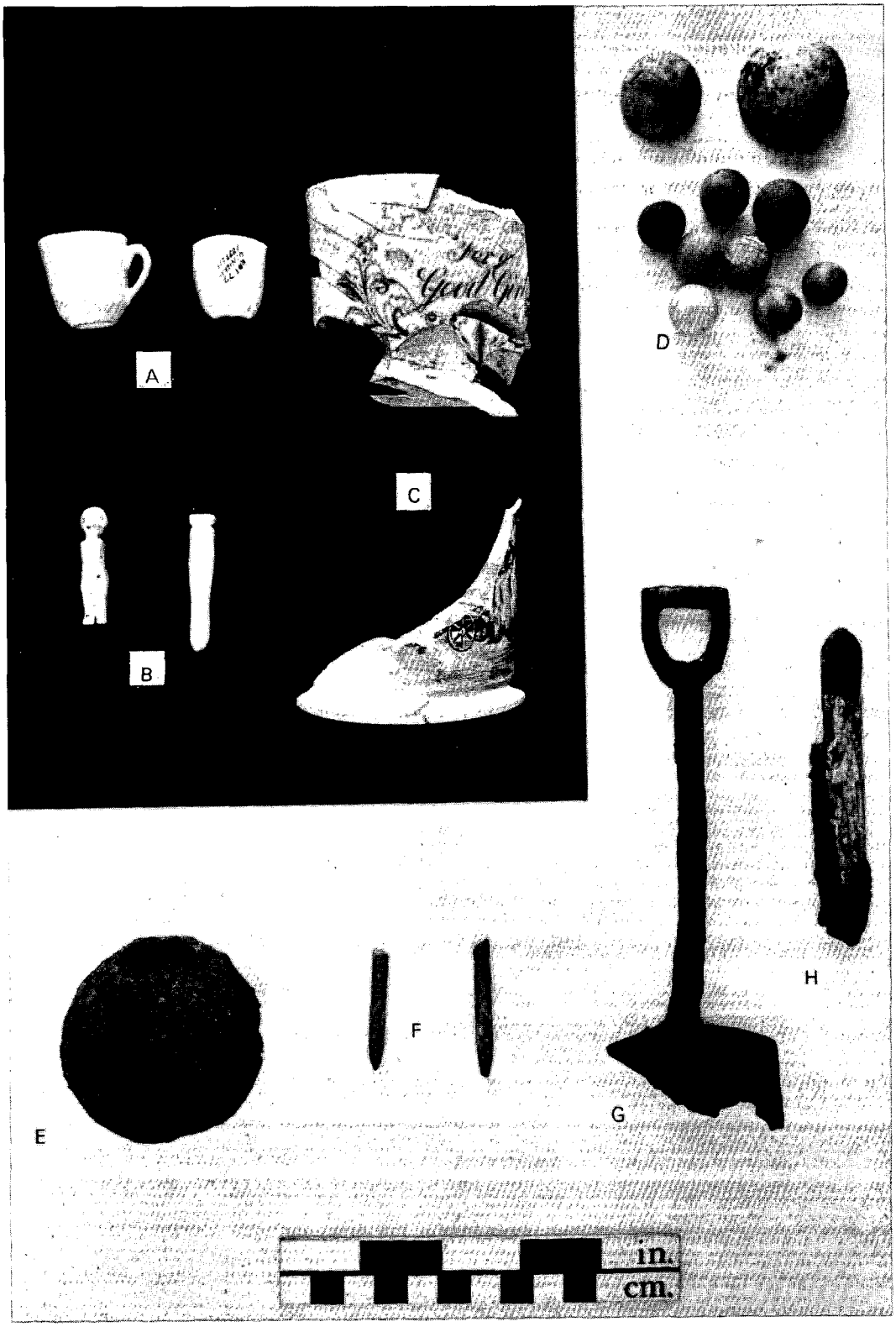


Fig. 4.17. Late 19th century playthings and other children's property. A, Toy china teacups; B, bone china doll pieces; C, polychrome transfer printed ironstone mugs; D, marbles of limestone and clay; E, rubber ball; F, steatite pencils (for writing on slates); G, toy iron shovel; H, bone handled jacknife.

Workers, Philadelphia and Reading Coal and Iron Co. coal pocket, ca. 1913. Photo courtesy Jacoby family.

PART II

HISTORICAL REVIEW

5. PRE-COLONIAL VISITORS AND SETTLERS

Prehistoric Camps

There is no question that the mouth of the Merrimack was a choice location for aboriginal camps, and that some of these existed within the bounds of today's Central Waterfront. We discovered chipped stone tools from at least two such occupations in excavations along the "Great Rock," a ledge underlying Ferry Wharf. Ground and polished stone tools were also found, dredged from the Market Slip by a construction crew building a new seawall. Although both sets of artifacts were found in historic disturbances, they do indicate that the area was occupied during one prehistoric period, the Late Archaic.

Knowledge of settlement of the Merrimack valley during all prehistoric periods is severely limited. Until comparatively recently, archaeologists have had to rely on a primitive survey conducted in 1930, before many prehistoric cultures were recognized and before proper recording procedures were adopted (Moorehead 1931). Subsequent tests of sites identified in the survey report have shown many of the initial identifications to be inaccurate. A recent study by Dincauze and Meyer (1977) documents some of the cultural resources of this part of New England, but adds no new data. It is intended only as a guide to future planning and developing, suggesting where one might reasonably expect to find aboriginal sites. Fortunately, some first hand fieldwork is currently being conducted in the Merrimack estuary by Harvard University. Specimens from the Central Waterfront have been examined by Russell Barber who is directing this work.

The projectile points which we unearthed fall into two distinct types (Fig. 5.1). Barber (personal communication) classifies the largest one as an "Otter Creek" type as it bears some resemblance to points from New York (Ritchie 1969:87). Otter Creek points are found in assemblages dating ca. 3500 B.C., and are associated with the Laurentian Tradition, originally defined for New York. The 3500 B.C. date is mentioned here only to convey the general magnitude of the point's antiquity as the cultural connection with the New York collections is far from clear. The raw material from which the point is made is a coarse argillite, probably from a local New England source. The smaller two points, however, are made from a dark gray chert which may well have come from a source in central New York state. Barber classifies these as "Normanskill" points, a type thought to date somewhat later. Unfortunately this form is a very common one in Archaic and Woodland assemblages, and is not closely defined either in time or space. Similar specimens have been noted in the upper levels of the Bull Brook site in nearby Ipswich, Massachusetts, as well as in sites discovered along the coast of Maine during the Passamaquoddy Archaeological Survey (collections of the Peabody Foundation, Andover, Mass.). The ground and polished stone adz, one of at least two dredged from Market Slip, may belong to either of these groups.

In his work along the Merrimack estuary, Barber has found very little Archaic material, probably because the estuary of 4000 to 6000 years ago has long since been submerged by rising sea level. The Archaic remains which he has encountered so far are apparently scattered remains on the uplands, far from any major encampments which might have existed for gathering shellfish, or exploiting other marine resources. His few specimens are small-stemmed projectile points, quite different from the side-notched points of the Central Waterfront.

Fig. 5.1. Aboriginal artifacts. A, Fine-grained granitic ground and polished adze, one of two specimens found in dredging the Market Slip during seawall construction. B and C, Chert and felsite bifaces from historical disturbances in Merchant's Row. D and E, Normanskill side-notched projectile points, both of chert probably derived from central New York state; specimen D was found in builder's trench for an iron pipe in Ferry Way, while E came from the foundation trench of an addition to the core building of Merchant's Row. F, Otter Creek-like projectile point of argillite, found in the foundation trench of the core building at Merchant's Row. G, Brass weight recovered in association with specimen E; pipestems and iron nails were found with the other aboriginal tools. All prehistoric materials apparently date to the Late Archaic; suggested antiquity of these specimens is ca. 2500-3500 B.C.

The remains in the project area have apparently been preserved because they, too, were on high land. At this time, the Great Rock must have been a low promontory overlooking the Merrimack--a choice spot for a hunting camp. Yet the nature of this camp is unclear. Surely these peoples lived here long after the Big Game Hunters who inhabited the Bull Brook site in nearby Ipswich at the close of the last glaciation. It is equally certain that they lived considerably before the introduction of the bow and arrow, pottery, and agriculture. They hunted with stone-tipped lances, and were equipped with heavy tools for working wood. But it is not known, for example, whether they were river people who visited the coast only on occasion to hunt, or if they were adapted to the coastal life, exploiting shellfish, swordfish, and other marine resources. In short, their livelihood remains a mystery.

Fascinating as these aboriginal finds are, their interpretive value is limited by the absence of associated refuse and features which would tell about the way of life they represent. No chipping debris, no shell or bone accumulation, no hearths or other features were unearthed which could be associated with these remains. The 18th and 19th century disturbances which have occurred here are probably typical of the rest of the Central Waterfront, and the chances of encountering significant aboriginal remains here in undisturbed contexts are remote. The answers to questions of prehistoric settlement along the Merrimack should be sought elsewhere.

European Contact and Watts's Cellar

The history of the Central Waterfront begins in the first years of the 17th century. For some time before the first permanent English settlement, the Newburyport area was on the frontier of European expansion. Explorers Samuel De Champlain in 1605 and John Smith in 1614 described the mouth of the Merrimack River in their accounts (Dow 1921:1). But the Europeans who usually called here were probably fishermen who stopped only occasionally while exploiting the offshore banks, or the kind of adventurers who drifted to frontiers (Albion et al. 1972:16). To some extent, both of these groups lived beyond the laws of their respective societies and beyond the ken of the chronicles of their times. When the area was settled by English colonists, some enticing references to these earlier figures were recorded. One of these allusions, frequently repeated, states that pre-settlement fishermen cured portions of their catch on the banks of the Merrimack River and stored it in Watts's cellar (Coffin 1845:10, 15). Another is that this enigmatic person known as "Watts" traded there with the native inhabitants (Smith 1854:24).

This Watts has been identified tentatively by Dr. Dena Dincauze as Walter Bagnall (Harris 1977:16). In her reconstruction of events, based on early colonial and English records, she states that Walter Bagnall joined an unauthorized trading venture operated by Thomas Morton at a site which later became Braintree, Massachusetts. According to various accounts, Bagnall either left the group or was assigned to one of their outposts in 1626. Harris (1977:8) cites Governor Winthrop's journal to show that Bagnall pointedly ignored the jurisdiction of the colony's government and that he cheated and mistreated the Indians. By 1628, Bagnall was trading on Richmond Island, Maine, and he was killed there by the Indians in 1631.

In the preceding account there is a two-year gap between Walter Bagnall's departure from Braintree and his arrival at Richmond Island. It is possible

that he spent these two years trading on the lower Merrimack valley. Also, Watt was a common nickname for Walter in the 17th century. These two facts make up Dr. Dincauze's argument that the Newburyport traditions about Watts may refer to the historical Walter Bagnall (Harris 1977:16; Dincauze, personal communication).

Other explanations for early references to Watts are possible. Early Colonial records cite one or two grants made by the General Court of Massachusetts for a trading station on the Merrimack prior to the arrival of the English settlers in 1635 (Smith 1854:10, 24). A different Walter or Watt could have been connected with one of these efforts. Furthermore, the name Watts appears as a common surname in histories of early New England. For example, the ship Elizabeth and Dorcas which arrived in New England in 1634, was under the command of Captain Watts (Currier 1896:250). The following discussion refers to the events of Walter Bagnall's life, not because we believe that this individual was associated with the waterfront, but because it offers a good example of the difficulty in identifying pre-settlement events through post-settlement records.

The first English colonists arrived in Newbury in 1635, four years after Walter Bagnall's death, and seven or eight years after he had left for Maine. They did not settle on land now in Newburyport until 1642-1648 (Currier 1896: 120, 1906:338). At that time what is now State Street was laid out and called "the way to Watts his cellar." These first references to Watts date nearly twenty years after Walter Bagnall had departed for Maine. The settlers may have believed simply that Watt, whichever one they meant, traded at this place. On the other hand, they may have referred to an actual ruin of a trading post or cache for fish. The latter use is consistent with early references to cellars as places where fish were stored. In Israel Webster's deposition of 1667, he states that he transported twenty-two kegs and firkins of pickled sturgeon from William Thomas' cellar in Newbury to Boston (Currier 1896:175).

It is very possible that none of the settlers who arrived in Newbury in 1635 ever saw this storage pit or trading post in use. If this was the case, they must have heard the story connected with the site or from people with prior knowledge of the Merrimack, perhaps fishermen or settlers from an adjacent town. Their statements about the waterfront before 1635 were not direct, eyewitness testimonies; they were the equivalent of today's popular legend that the bowsprits of sailing ships used to jut out over Market Square (Currier 1896:121). Both traditions may contain elements of truth, but should be viewed critically.

Naturally there is much interest in the location of Watts's cellar. As a pre-settlement feature, it is automatically in the realm of what passes for a traditional American mythology, speculation on the history of our land and its peoples before European settlement and the mundane records of civilization. There are two sources of information we can use to satisfy our curiosity about the location of Watts's cellar. The first is the oral tradition about the landmark as it was passed down by local 19th century authors. Emery (1879:226) repeats stories told to her mother ca. 1800, and places Watts's cellar in Market Square. Coffin (1845:37) may have heard similar tales at about the same time and later researched the subject in the town records. He puts Watts's cellar "near where the Newburyport Market House now stands." Currier (1877:25, 1896: 122) apparently agrees with him, locating the landmark near the Market House.

The second source, early property descriptions, is much more difficult to interpret as illustrated by the following example. Harris (1977:15), primarily

on the basis of one deed, locates Watts's cellar near the Ferry Wharf Building, a site already shown by our archaeological tests to be most improbable. The relevant passage in this deed reads, "Capt. Paul White standeth seized of a parcel of land not exceeding half an acre at Watts his cellar granted to him to make a dock & wharf & warehouse" (ECRD 10:95). Harris, for two reasons, asserts that this deed illuminates the location of Watts's cellar. First, this is a "previously unpublished" deed overlooked by earlier historians (Harris 1977:15). Second, the use of the word "at" clearly associates Watts's cellar with that property. Both of these points are unfounded. There is no reason to assume that Coffin, Currier, and others overlooked this deed, as it can be found as easily as any of the others. Currier (1896:151), while he does not quote the document verbatim, does in fact refer to it specifically in tracing the history of the waterfront properties. The inference Harris draws from the use of the word "at" is also unwarranted. In legal descriptions of location, its primary meaning is "near" or "near to" (Black 1951:159). This is consistent with the deposition of Percevall Lowell, who described Capt. Paul White's land as laid out near Watts his cellar (ECRD 23:110; Currier 1896:151). Lowell was an eyewitness ca. 1660 to a confirmation of the bounds of this grant by members of the town committee which had originally laid them out. Transfers of Capt. White's property occurring before and after Harris' key deed also describe it as "near" or "about" Watts's cellar, and the adjoining Dole property is described in the same manner. The conclusion to be drawn from this example is the importance of context in interpreting these documents. What one particular deed implies about the location of Watts's cellar must be weighed against all other contemporary references.

Extensive review of the title transfers which relate to the project area has led to a reformulation of the relationship between the original land grants and the location of Watts's cellar. The reconstruction of the waterfront properties of 1700, as presented by Sidney Perley (Currier 1896:120), contains a significant error which has misled other researchers attempting to identify this site. Perley mislocates two grants, placing them east of the Middle Ship Yard, when in fact they were to the west of that landmark. The error is important, because these grants are also described with reference to Watts's cellar, even though they are considerably removed from the site of Captain Paul White's original grant. In order to demonstrate the relationship between the original land grants and this landmark, we consider them here in order from west to east. The subsequent history of these parcels may be traced by referring to Appendix B, p. 209.

In 1698, the town of Newbury granted Capt. Stephen Greenleaf four or five rods of the waterfront (NTR:March 11, 1697; Coffin 1845:164). This property was described as "near Watts' cellar."

The next grant to the east was made to Ensign Greenleaf and Daniel Davison in 1680. It was said to be "on the point of rocks above Watts his cellar" (NTR January 5, 1680; Coffin 1845:125). If "above" in this context means upriver, Watts's cellar was still further to the east. But this is only one clue, and it must be interpreted in the context of the remaining property descriptions.

In the same year, the town granted a parcel to Benjamin Rolfe, Dr. John Dole, and Richard Dole next door to the Greenleaf-Davidson property (Currier 1896:157). The eastern boundary of this property is identified as Watts's cellar spring on subsequent title transfers through the early 18th century. Watts's cellar itself, however, it not mentioned.

Watts's cellar spring became the site of the public landing, the Middle Ship Yard and ultimately the Market House. This makes up the western boundary of the project area as shown on Fig. 3.1, p. 29. In a 1712 document, a lease from the town permitting the landing to be used as a shipyard, the property is further described as being near Watts's cellar (Currier 1896:280).

In 1687, incidentally, Daniel Davison obtained title to a tiny piece of land 20 feet by 35 feet somewhere in this vicinity (NTR April 2, 1687; Currier 1896:158). It has been impossible to locate this land precisely, because its description is ambiguous (Appendix B, p. 209). In any case, it makes no mention of Watts's cellar.

In 1675 and 1678, Richard Dole received title to lands east of the public landing (Currier 1896:153). These parcels were described as being on the point of land between the two gutters near Watts's cellar, and were granted in response to a request for land "about Watts his cellar" (NTR:May 7, 1675; NTR: March 5, 1677; NTR:Sept. 20, 1678; Coffin 1845:116, 119).

East of Dole's grants was Capt. Paul White's grant of 1655 (NTR:April 25, 1655; Coffin 1845:60). As noted earlier, this land was variously described as about, at, or near Watts's cellar. Note that Paul White's was the easternmost property to be described by its relation to this landmark.

Although several parcels along the waterfront are identified as being near Watts's cellar, none of the deeds specifically mention that they include this landmark or come close to it on their eastern or western bounds. This is surprising, since early property descriptions sought desperately to locate boundaries by the most permanent landmarks available. For example, the boundary descriptions "fifteen foot to the west of Watts' cellar spring," "upon ye Great Rock," "nine feet to the east of Deacon Noyes drean," and, "by a middle rock between two other rocks" were all used to describe land on the waterfront. Why was Watts's cellar omitted? It is possible, of course, that the precise location of this site was even then unknown, and that there were no surviving ruins to identify. If this is true, we need search no further, as there would be no surviving archaeological remains to investigate.

There is, however, another possibility. Watts's cellar may have been on the common land, which later became the market place, an interpretation which is compatible with the suggestions of Emery, Coffin, and Currier. As this land never passed into private hands, it had no early property description. Such a site would be consistent with the description of the Greenleaf-Davison grant, situated "at the point of rocks above Watts his cellar." It would also be roughly at the midpoint of all waterfront grants which refer to this feature. Finally, the location is a plausible one: a landing place between two promontories, near a spring of fresh water, yet some distance above the marshy tidelands. This would be suitable either for a trading station, or for a cache where a fisherman might store his catch.

6. FARMING, COMMERCE, AND SHIPBUILDING 1635-1700

The original limits of Newbury were much larger than they are today, and included the present Newbury, Newburyport, West Newbury, and Byfield. The nucleus of the first settlement was on the banks of the Parker River, three and a half miles south of Newburyport. There were several factors which prompted the colonists to locate here, rather than at the mouth of the Merrimack. The original site was closer to well-established towns such as Salem to the south. It also provided ready access to a falls with a sufficient head of water to power a mill (Coffin 1845:16). But more important, the Parker River was at this time the better suited for navigation, and ships could be unloaded at the heart of the settlement. William Hood, who travelled this area from 1629 to 1633, noted that while the Parker River offered a channel which could accommodate ships of 50 to 60 tons, the larger Merrimack had a particularly dangerous entrance (Smith 1854:99). The sands have shifted repeatedly in the Merrimack's history, and in the early 17th century its mouth was divided by a bar which forced ships dangerously close to the shoals on either side (Smith 1854:8). Tradition holds that in 1646 Aquilla Chase was the first person to bring a vessel of any size over the bar (Coffin 1845:46; Currier 1896:22).

Another factor which delayed settlement at the mouth of the Merrimack was the slow development of its hinterland. Areas upstream were not to be settled for several decades, and Newbury's own resources were too limited and its population too small for the town to generate its own trade. Travelers in the mid-17th century described Newbury as an agricultural community of about 70 families, and in 1671 it was still only a "... scattering, well stocked with meadow, upland, and arable and about 400 cattle" (Dow 1921:22, 30). It could hardly compete with Salem to the south, which was already characterized as a trading port with two harbors, a fort, and very rich merchants. Other settlements to the north, such as Strawberry Banke (Portsmouth, N.H.) and Pemaquid (Bristol, Me.), also had a slight lead on Newbury in commercial development.

Settlement of the Merrimack Valley was very slow, partly because the civil war in England in 1641 sharply reduced the flow of immigrants (Morison 1921:11), but also because there was growing conflict between the colonists and the Indians. Nearby Haverhill and Andover remained the frontier communities for many years, bearing the brunt of raids in King Philip's War and later conflicts. In 1693, at a town meeting in Haverhill, settlers considered abandoning that community because of raids by the Abnaki (Fuess 1935:126, 141). As late as 1708, the Reverend John Pike's journal indicates a raid on Haverhill in which 16 residents and many soldiers from Salem were killed (Coffin 1845:334).

Newbury itself recorded only one raid. On October 7, 1695, nine members of the John Brown family were ambushed and carried off. One of the children escaped to give the alarm, and some of the Newbury militia, under the command of Captain Stephen Greenleaf, were able to cut off the raiders and rescue the family before they were carried across the Merrimack. Currier (1896:290) records that Captain Greenleaf, who was later to own land and build a house on the Central Waterfront, was badly wounded in that fight and received a 40 ₤ award from the General Court in recognition of his services.

Even if Newbury was not frequently attacked, its militia was repeatedly called out for service in defending more exposed communities, and volunteers were sought for service there against the French and Indians (Coffin 1845:117,

119, 158). On one of these occasions, in 1695, Hugh March and Edward Sargent were sent to the garrison at Pemaquid. Reverend John Pike, then the Pemaquid Chaplain, reported that these two men were killed by Indians a few months before that outpost surrendered, an account verified in the Newbury town records (Camp 1975:85; Coffin 1845:161).

In intervals of peace, there was some trade with Indians along the Merrimack, and at one time a trading post was set up at Dunstable (Fuess 1935:128). But the small population of the valley in the 17th century precluded any significant carrying trades through Newbury. Nevertheless, some limited trade did develop here, receiving its impetus from local and Colonial government.

When immigration from England decreased sharply after 1641, this decline caused a severe economic crisis for the colonists, who were still dependent on England for many necessities of life (Morison 1921:11). The immigrants had brought iron, cloth, tools, nails, utensils, and other useful items with them. The earlier residents could trade land, food, and livestock for these supplies while the newcomers became established. All at once this mainstay of the economy was removed. In the words of Governor Winthrop:

> All of our foreign commodities grew scarce, and our own of no price. Corn could buy nothing; a cow which cost last year £20 might now be bought for 4 or 5£... These straits set our people on work to provide fish, clapboards, plank, etc.,... and to look out to the West Indies for a trade (Morison 1921:12).

Seeking exports was one way to balance the ledger; stimulating local production of necessities was another. Hartley (1971:48) mentions a number of New England industries that first became solidly established as a result of this crisis: shipbuilding, glassmaking, saltmaking, ironworks, and all kinds of textile production. These were not simply the reactionsof private individuals to their circumstances, for the Colonial government and local towns provided increased subsidies to encourage such efforts. This stimulation of local trade and production had two effects on Newbury: increased commerce, within the limits mentioned, and the beginning of shipbuilding.

Visitors describing the situation in Massachusetts from 1652 to 1671 repeatedly mentioned the wealth of timber, especially oak, in the Merrimack Valley. The potential of these forests was obvious to the residents of Newbury, for the material was there to export, and the river would bring it directly to their door. Their northern neighbors on Strawberry Banke at the mouth of the Piscataqua were already proving the logic of the lumber trade. What was needed in Newbury were suitable facilities, items to exchange, and someone competent to expand the business. This was the context in which the first waterfront grant was made in 1655.

Captain Paul White had previously been a merchant at Pemaquid, Maine and had lived in Newbury barely two years when he received a grant of waterfront land from the town (Camp 1975:x). Conditions of the grant stipulated that he build a wharf, warehouse, and dock (Coffin 1845:60). Evidently the business succeeded in inducing people upriver to bring items to exchange. A deposition given by Joseph Bond of Haverhill in 1721 states that he had traded with White and his wife, Ann, for many years at that location (ECRD 39:15). No doubt Captain White sold many necessary items to people upstream, but only references

to wine and spirits have been preserved. When he first arrived from Pemaquid, he purchased a still house from Edmund Greenleaf and evidently ran a distillery in Newbury for more than 25 years (Currier 1896:177). In 1668 the town petitioned the court at Salem to license Paul White "to sell wine out of dores by retaile... until some man be licensed to keep an ordinary here" (Coffin 1845:71).

The limited potential for commerce in the thinly settled Merrimack Valley is illustrated by the 20 year gap between the building of the first and second wharves, during which this time Captain White's Warehouse Point became a landmark. The second set of grants was made in 1675 and 1678 to Richard Dole, who, like White, had been a merchant at Bristol, Maine (near Pemaquid) before coming to Massachusetts (Coffin 1845:31). He had been in business at the Parker River settlement in Newbury since 1640.

At the time of these grants, the town took care that the particular interests of citizens be served by making several restrictions. One grant for a docking area required, "that all boats that belong to the town shall have free liberty of egress and regress to lie there as occasion may serve." On the eastern side of the grant, a two rod way (Ferry Way) was left, "for the town's use to the dock for to unlade hay, wood, timber, boards, or anything else which is produced in or on the river, it not being imported from or exported to the sea" (Coffin 1845:120). Several later grants were subject to the same restrictions. These attempts to induce private construction of facilities needed by the public were similar to those of other bodies in the colony, and may be seen as early parallels to our federal government's grants of land to western railroads.

During the 1680's and 90's, several other wharves were built in and adjacent to the project area, indicating a gradual expansion of trade conducted at the Newbury waterfront. During this time, Governor Bradstreet stated:

> The principal towns for trade within our government are Boston, Charlestown, and Salem. Some little trade there is for country people at Ipswich, Newbury, and so forth (Coffin 1845:1260).

Detailed records have not been preserved from that period, so the actual pattern of Newbury's trade is unknown. Presumably local merchants began by sending coastal shallops to larger ports, such as Salem and Boston. Edward Poor testified in 1681 that he had worked for Richard Dole "... loading and unloading vessels in ye dock and going to sea in his employ" (ECRD 39:64). Dole's exports probably included fish, which according to contemporary accounts was sturgeon, caught and pickled on the Merrimack as had been done by pre-settlement traders (Coffin 1845:113). Lumber and furs from upriver, and agricultural products from Newbury surely were handled as well. Limestone in Newbury was the first found in the colony to be suitable for commercial exploitation, but this was not exported until after 1697 (Coffin 1845:165). The town appointed a committee to oversee its use, and burned the lime in a kiln on the banks of the Merrimack.

Once coasting trade had begun, the success of the Salem and Boston merchants in the West Indian trade undoubtedly tempted Dole and other Newbury merchants to venture farther. A report in 1671 of one Salem merchant indicates that he had previously made several voyages to Barbados, returning with sugar, cotton, and molasses, "which were then commodities rendering great profit" (Coffin 1845:112). Newbury merchants quickly followed this example, and soon developed their own West Indies trade. The colony was divided into customs districts in 1683, and

Newbury and points north were assigned to the Salem district (Currier 1906:476). There were immediate complaints from residents of Newbury and Salisbury over the inconvenience, expense, and delay which resulted from having to clear their cargoes through Salem. In 1684, the government responded by appointing Nathaniel Clark naval officer (customs agent) for Newbury and Salisbury. Nathaniel Clark's wharf had probably just been completed on the eastern edge of the project area, adjacent to the site of the later United States Custom House (Fig. 6.1).

An unfortunate byproduct of the West Indies trade was the encouragement of slavery, a subject extensively researched by Newburyport's abolitionist historian, the Reverend Joshua Coffin. Although the practice was ostensibly illegal and the total number of slaves in Newbury was small, he found that "with few exceptions, all classes of people, merchants, farmers, mechanics, professors of religion, and ministers of the gospel bought and sold slaves" (Coffin 1845:337). In particular, Indian and Negro slaves were freely bought, sold, and willed, by merchants who acquired them on voyages to the southern colonies and the West Indies. One such merchant was Richard Dole, who owned at least five slaves (ECPC 8078). In 1690 his black slave James, who probably worked on the docks of the Central Waterfront, was accused of participating in a serious conspiracy. He and an Indian slave, together with one Isaac Morrill from New Jersey, are said to have planned to take a vessel from Newbury and flee to the enemy in Canada (Coffin 1845:334). From there they intended to guide a force of 800 French Canadians and Indians to Haverhill, Amesbury, and Newbury, and kill everyone except the blacks and Indians. Unfortunately, Coffin could not locate the outcome of this case in court records, but still the incident shows that residents of Newbury feared not only their French and Indian enemies, but their own slave population as well.

West Indies trade also exposed Newbury's merchants to their enemies on the open sea. Not only were their substantial investments in ships and cargo jeopardized to tempest and shoal, they also risked becoming the spoils of buccaneering. Newbury town records contain the following stark entry for August 22, 1689:

> Brig Merrimack of Newbury, Captain John Kent, was captured by pirates in Martin[sic] Vinyard sound (Coffin 1845:152).

By 1700, Newbury's commerce was part of a well-established trading pattern. In a letter written that year John Higginson, a member of the Governor's council, described the international shipping of the Massachusetts colony.

> We trade to all parts where the law doth not prohibit. Our principal commodities are dry merchandise, codfish for the markets of Spaine, Portugal, the straits, also refuse dry fish, mackerel, lumber, horses, and provisions for the West Indies: the effects [return]cargoes whereof mostly return for England. The returns made hence directly for England, are chiefly sugar, molasses, cotton wool, logwood and brizilla-wood: for which, we are beholden to the West Indies. Of our own produce we have a considerable quantity of whale and other fish-oyles, whale bone, furrs, deer, elk, and bear skins: which are usually sent for England.... Places proper in Europe to make returns to England from, and are much improved [used] for that end, from hence, are Bilboa, Oporto and the Straits (Dow 1921:54).

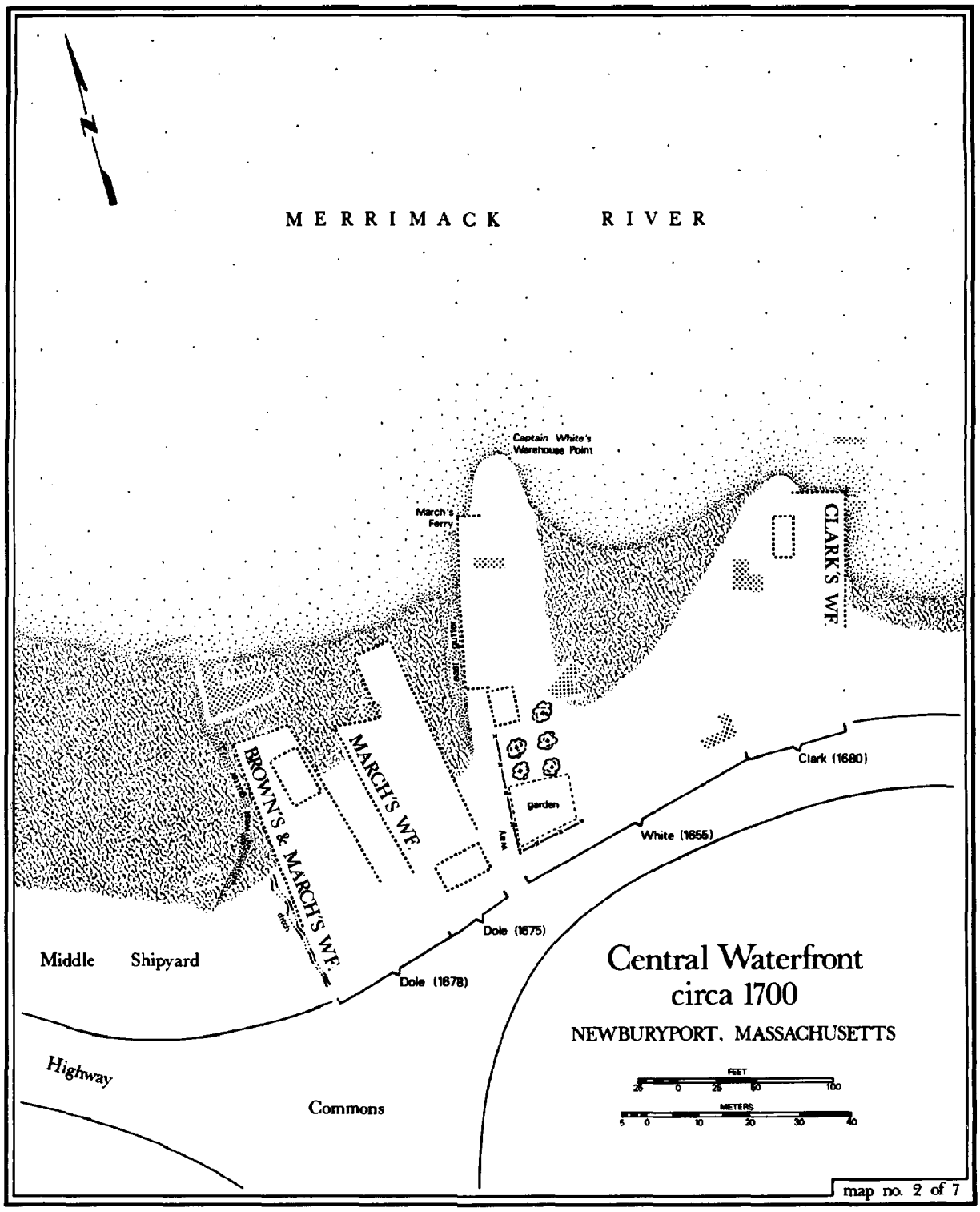


Fig. 6.1. The waterfront at the Merrimack "waterside," ca. 1700.

Important as commerce was to the developing port in the 17th century, shipbuilding played an even greater role in the economy. There was profit in exporting lumber, but building and selling ships gave an even greater return on the valley's timber. There is no record telling when or where the first large vessels were built in Newbury, although shipbuilding became an established industry for the town by 1660 (Morison 1921:14). Coffin (1845:31) asserts that small fishing and coasting shallops were first built on the Parker River at the site of the original settlement. By 1652, shipbuilding was underway on the Salisbury side of the Merrimack using plank produced in a new sawmill there (Currier 1877:16). One of the early Salisbury shipbuilders was George Carr, who ran the first ferry across the river from his island a short distance above the project area. The probate of Carr's estate in 1683 indicated that he had more than one building yard on his island (Currier 1877:17).

The legal controversies of the day show that shipbuilding was being conducted on a grand scale by the 1670's. In 1675, Johnathan Woodman of Newbury, a shipwright, brought suit against Bartholomew Stratton and others of Boston for 268£ due him for construction of the ship Salumander (Currier 1896:276). As Newbury's shipwrights constructed more and more vessels for other ports, they apparently put a strain on the local timber supply. Several entries in the town records specify fines for the unauthorized cutting of trees on public and private land to use for ship timbers (Currier 1877:18).

Toward the close of the century, many ships were built immediately upstream from the Central Waterfront and on the public landing at the western end of the project area. The parcels granted by the town to Benjamin Rolf and the Doles in 1680 and to Stephen Greenleaf in 1696 were both used in part as shipyards. The Middle Ship Yard, which was tested in the trench at Area 6, was apparently in use by 1692. At the rate of three pence per ton for the vessel built, the town of Newbury rented this common land to shipwrights and contractors (Currier 1877:19).

In spite of the growth of commerce and shipbuilding during the 17th century, agriculture was still the economic focus of the community. In 1685, shipyards were secondary to sheepyards, which boasted flocks of 5700 head (Coffin 1845: 139). Excerpts from the town records and diaries of local residents are rife with references to the weather, the state of crops, and business relating to animal husbandry. An entire volume of the Newbury town records is devoted to the patterns of ear notches by which various owners marked their livestock (NTR:n.d.).

In spite of its port facilities, "New Town" or "the waterside" was still very much a rural area in 1700. Perley's reconstruction shows a scattering of only 30 houses on large plots of land with much space for fields, orchards, and gardens (Currier 1896:119). Our title search of the Central Waterfront indicated that no houses were built on these properties before the close of the 17th century, although archaeological tests in Area 4 suggest that a structure was placed there shortly thereafter. Through the 1680's Captain White's warehouse grant was used for planting trees and as a garden (ECRD 39:64). The only known structures are shown in Fig. 6.1: four wharves and four warehouses.

The nucleus of the future Newburyport had been formed. In addition to the wharves and warehouses, a ferry landing was built in the center of the project area shortly after this concession was granted to John March in 1687 (Coffin

1845:148). Somewhere near the waterfront an inn was established ca. 1653 (Currier 1896:176). Still, the settlement at "New Town" was insignificant in comparison to Salem, "about a mile long with many fine houses," or Boston, a major English city with 7000 inhabitants (Dow 1921:30; Morison 1921:20).

7. COLONIAL PROSPERITY AND THE SPOILS OF WAR 1700-1790

Shipbuilding and foreign trade transformed the Merrimack settlement during the first quarter of the 18th century. The "waterside" grew in population, and developed into a sizeable port commanding a regional market. By the end of this period, the community had developed many of the characteristics it would carry through the remainder of the Colonial era.

"New Town" 1700-1725

The 18 year interval between 1704 and 1722 brought the construction of the first residences along the Central Waterfront, which appear in Fig. 7.1. Benjamin Woodbridge, great grandson of Captain Paul White, erected a brick house (13) on the east side of Ferry Way (ECRD 39:64). Captain Stephen Greenleaf built on the other side of this way where Richard Dole's warehouse formerly stood (8, 10). In 1719, he sold this part of his property and constructed another house (3) to the west, on the remainder of his land (ECRD 34:250). The demand for waterfront property grew, and while Woodbridge and Greenleaf were building, Merrimac Street (i.e., Water Street) was laid out and new grants were made. Waterfront land outside the central area which had not been granted previously for shipbuilding and wharves, was allotted to the proprietors (Coffin 1845:171; Currier 1896:623). Disputes over property lines arose, especially in the Central Waterfront where the bounds of Ferry Wharf had to be re-established (NTR:May 5, 1721). Already the settlement was experiencing some growing pains.

This growth in the waterside population was surely stimulated by the peopling of Newbury's natural hinterland. A new wave of expansion came after the treaty of Utrecht in 1713, an agreement between European powers to end the practice of harassing each others settlements by inciting Indian raids (Fuess 1935:343). Other major conflicts were to follow, of course, but 1713 saw a marked easing of the Indian threat from the northwest. In the next few years, settlement spread rapidly through the lower Merrimack Valley.

This lull in hostilities between European powers also had important consequences for maritime trade. The West Indies trade of the New England settlers expanded when the French and Dutch opened their colonies to English commerce (Morison 1921:19). More fish, barrel staves, shingles, clapboards, and agricultural products found markets, more sugar and molasses was imported, and Newbury's merchants handled them all. Rum became the favorite alcoholic beverage in New England (Albion and others 1972:36), and Newbury's distilleries must have done considerable business with surrounding communities.

Undoubtedly the growth of trade in this period also increased the demand for Newbury's ships. The surviving shipbuilding records, although they only cover the first 15 years of the 18th century, do indicate the scale of this industry. From 1681 to 1714, approximately 130 vessels were built on the Merrimack, more than 100 of them launched in Newbury (Currier 1877:20). The majority were sloops, ketches, and brigantines of 20 to 50 tons, designed for local or coastal service, and built after 1698. Many of these were constructed for owners in other Colonial ports.

Only 10 percent of the vessels built here were exported to buyers in Great Britain, but these were by far the largest and the most expensive (Table 7.1). Ships sold abroad were very important to the colony, as they offered an ex-

change to pay for imported English goods. Because timber was plentiful and could be obtained at ports such as Newbury with negligible transportation costs, New England's builders could undersell their British counterparts by as much as 30 percent (Albion and others 1792:25). As the number of vessels built for the overseas market increased, English builders began to complain about the competition. In 1724, master shipbuilders of London petitioned the Lords of Trade not to encourage shipbuilding in New England (Morison 1921:19). The American and English builders, however, were both protected by the same navigation acts and policies and neither was to be favored. By the time of the Revolutionary War, fully one third of Britain's merchant fleet was American built (Labaree 1975:7).

Table 7.1. Newbury built ships exported before 1715 (after Currier 1877:21).

Date	Vessel type	Name	Port	Tons burthen
1698	Sloop	Ann	Portsmouth, Eng.	40
1708	Ship	John	London	120
1709	Ship	Bond	London	310
1709	Ship	Prince Eugene	London	160
1711	Sloop	Hannah and Elizabeth	London	60
1712	Sloop	Ann and Mary	London	70
1712	Ship	Rowlandson	London	150
1712	Ship	Content	London	90
1713	Sloop	---	London	50
1713	Sloop	William and James	Glascow	40
1713	Sloop	Mary and Sarah	Barbados	20

By 1725, "New Town" had a substantial population of shipbuilders, merchants, distillers, and tradesmen, whose interests contrasted with Newbury's farmers. Disputes in their religious assembly led to the formation of the Third Parish of Newbury (later the First Parish of Newburyport), a separate congregation of of the waterside population (Atkinson 1933:13). The church was formally organized in 1725, and a meetinghouse was erected on the common land, now Market Square. The congregation grew rapidly, and the meetinghouse was substantially enlarged just 12 years later.

Maritime Industry and Trade 1726-1775

In the 50 years before the Revolutionary War, the practice of building vessels for British buyers became more and more common (Emery 1879:175). Some Newbury builders established long-term contracts with satisfied customers. An Edinburgh merchant sent Johnathan Greenleaf a commemorative punch bowl decorated with a picture of a ship launching as an expression of his satisfaction (Currier 1909:208). The demand became so great that many New England merchants allowed their vessels to be sold abroad after the cargo was unloaded. If the opportunity was convenient and the price was right, the master would sell his vessel and take passage home in another.

No official records of shipbuilding in the port of Newbury have survived from this period, but the research of later historians gives some suggestion of the size of this industry. Currier (1877:24) states that in 1766 no less than 72 vessels were under construction at one time along the waterfront. Morison (1921:101) estimates that 90 vessels were launched in 1772 from the shipyards of Newburyport alone. At the peak of this phase of the industry, ten shipyards were in use to the east of the Central Waterfront (Anon. 1855).

Commercial paper or notes of credit received for ship sales were at a premium among New England merchants who were chronically in debt to their English counterparts (Albion and others 1772:42). These debts were incurred because New England, in contrast to other Colonial areas, had few products in demand in Britain. Merchants in some ports had to rely on returns from the coasting or West Indies trades to pay for their English imports, an indirect transaction which was inherently costly. Although Newbury's merchants were also heavily committed to the West Indies trade, they could pay for English goods with revenues generated from shipbuilding. This advantage in commerce, together with the employment generated by shipbuilding, help explain why Newbury grew and prospered while Boston actually lost population (Morison 1921: 22).

Part of the economic impact of shipbuilding lay in the development of subsidiary industries. At first, shipbuilders must have imported hardware, cordage, and sailcloth to fit out and rig their products. The switch to local resources began when an ironworks was established in Salisbury (Fuess 1935:262). From 1710 and 1740, this operation turned out a low quality bog iron used to cast anchors and other hardware. Later, specialized shipsmiths were at work here, but they were not common. Blacksmiths probably supplied much of the demand for ships' fittings between their orders for agricultural and household items. Other maritime related trades, however, appeared as full-time occupations. Ambrose Davis, ancestor of the Davises whose sail making refuse was excavated, was earning a living as a sail maker in 1734 (ECRD 92:178). A ropewalk was established in 1748 (Coffin 1845:218), an industry which soon expanded to seven establishments employing more than 100 people (Anon. 1855). Pump and block makers, coopers, slaughterers, and bakers were mentioned in deeds of this era as well. All provided important equipment or supplies for vessels being built or equipped.

The concentration of population and the expanded commerce supplied markets for many other tradesmen, some of whose products were detected in archaeological testing. Some trades, such as silversmithing, goldsmithing, and wig making, produced luxury goods for merchants and professional people (Currier 1906:169). Others, such as Daniel Bayley's pottery and the button shop of Enoch Noyes made everyday items (Watkins 1950:49; Coffin 1845:225).

Artisans and merchants of the port area came into increasing conflict with the farmers in the rest of Newbury. Schooling was more important in preparing a child for a commercial career than for life on an 18th century farm, and the residents of the port were generally more interested in education than were the country people (Hurd 1888:1738). Other disputes were simply factional, such as the conflict over the proposed location of the new townhouse. It was the townhouse controversy, in fact, which ultimately brought about the division into separate towns. The act of the General Court, which created Newburyport in 1764, summarized the situation:

> ... The town of Newbury is very large, and the inhabitants of that part of it who dwell by the water side there, as it is commonly called, are mostly merchants, traders, and artifacers, and the inhabitants of the other part of the town are chiefly husbandmen, by means whereof many difficulties and disputes have arisen in managing their public affairs (Hurd 1888:1738).

The new community was small in area, a narrow strip of land along the river covering approximately one square mile. Newburyport's population, at 2900, was substantial; a sketch of the port made at the end of the Colonial era gives an impression of the compactness of settlement (Fig. 7.2). The Central Waterfront, about which the town was tightly clustered, now took on the appearance shown in Fig. 7.1.

Waterfront Occupants ca. 1770

The reconstructed picture of the Central Waterfront at the peak of Colonial prosperity is complete in many details, even though no formal plans from this time survive. Market Square was the center of activity for the community, and the site of the First Parish meetinghouse. This church was the focus of social life of its congregation, which included the leading Newburyport merchants. To the west was a triangle of open land, a site used for celebrations; here, upon the news of Wolfe's victory at Quebec, the residents had roasted an ox and held a day long festival (Coffin 1845:224). On the other side of the meetinghouse, conspicuously facing the street, were the stocks (Emery 1879:89).

The public landing behind the meetinghouse was in constant use throughout most of the Colonial era as the Middle Ship Yard, and was often rented for five years at a time (Currier 1877:23). One renter was Thomas Woodbridge, a respected shipbuilder, who apparently found the location conveniently close to his major holdings on Ferry Wharf (Currier 1906:450). In 1771, however, the town voted to use this property again as a public landing, and thereafter the site was only rarely used for shipbuilding.

The wharves themselves, of course, were primarily devoted to mercantile activity. The largest one on the Central Waterfront belonged to Patrick Tracy, an emigrant from Ireland who became one of the foremost merchants in the Massachusetts Colony. It was an immediate successor to this wharf which was exposed recently in constructing a seawall around the remains of Market Slip. In addition to this and other real estate holdings, Patrick Tracy and his son Nathaniel were reputed to have owned 110 vessels in 1775 (Currier 1877:33).

Shipbuilding and merchant families were often intermarried, and capital flowed easily between these two interests. One of the Woodbridge daughters, from the family which owned Ferry Wharf and rented the Middle Ship Yard, married a son of "King" Robert Hooper of Marblehead (Currier 1909:191). In this way, Ferry Wharf came under the control of one of the leading Colonial merchants dynasties. It was while Hooper was using this property that the core of Merchant's Row (15) was erected, a section which was tested in the Area 1 excavation.

At the other end of the Central Waterfront on Starkey's Wharf, was a mercantile business (22) of a smaller scale than Tracy's or Hooper's. The owner,

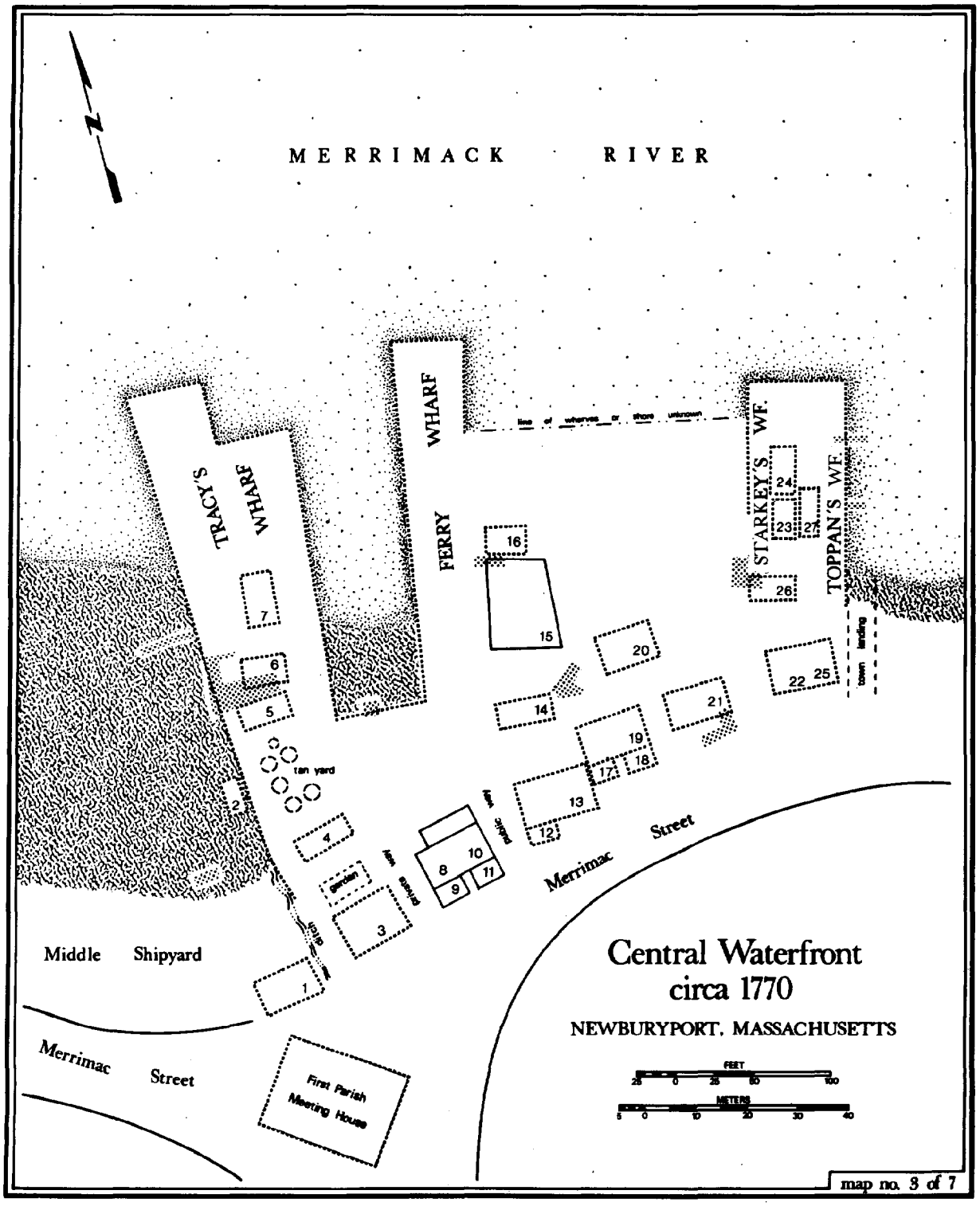


Fig. 7.1. Newburyport's Colonial waterfront, ca. 1770.

Fig. 7.1. Central Waterfront, 1770 -- Key

Building	Owner	Function/(Occupant)
1 Store	Benjamin Greenleaf	
2 Slaughterhouse	Benjamin Greenleaf	
3 House	Richard Greenleaf	Residence
4 Bark house	Richard Greenleaf	Storage of tanbark
5 Barn	John Greenleaf (1743)	
6 Warehouse	Benjamin Greenleaf	
7 Warehouse(s?)	Patrick Tracy	
8 1/2 House	Elizabeth Burt	
9 Shop	Elizabeth Burt	
10 1/2 House	Sarah Atkins	
11 Shop	Sarah Atkins	
12 Shop	Thomas Woodbridge	
13 Brick house	Thomas Woodbridge	Residence
14 Warehouse	Thomas Woodbridge	
15 Brick building	Thomas Woodbridge	Sail maker's loft (Ambrose Davis)
16 Shop	Joseph Woodbridge	
17 Shop	Elizabeth Watkins & Nathan Hale Esq.	
18 Shop	Elizabeth Watkins & Nathan Hale Esq.	(Samuel Tufts)
19 House	Elizabeth Watkins & Nathan Hale Esq.	(Thomas Bazin)
20 House	Elizabeth Watkins & Nathan Hale Esq.	(Dr. Nathan Hale)
21 Shop	Timothy Greenleaf	Blacksmith/goldsmith
22 1/2 House	Joseph Parker (1739-62) Elizabeth Starkey Roberts (1770)	Periwig maker
23 Old building	Joseph Parker	
24 Warehouse	Elizabeth Starkey Roberts	Merchant's storage (Robert Roberts)
25 1/2 House	Enoch Toppan Sr.	Residence
26 Barn	Enoch Toppan Sr.	
27 Shop	Enoch Toppan Sr.	Block making

Note: Dotted lines indicate approximate size and location of known structures.

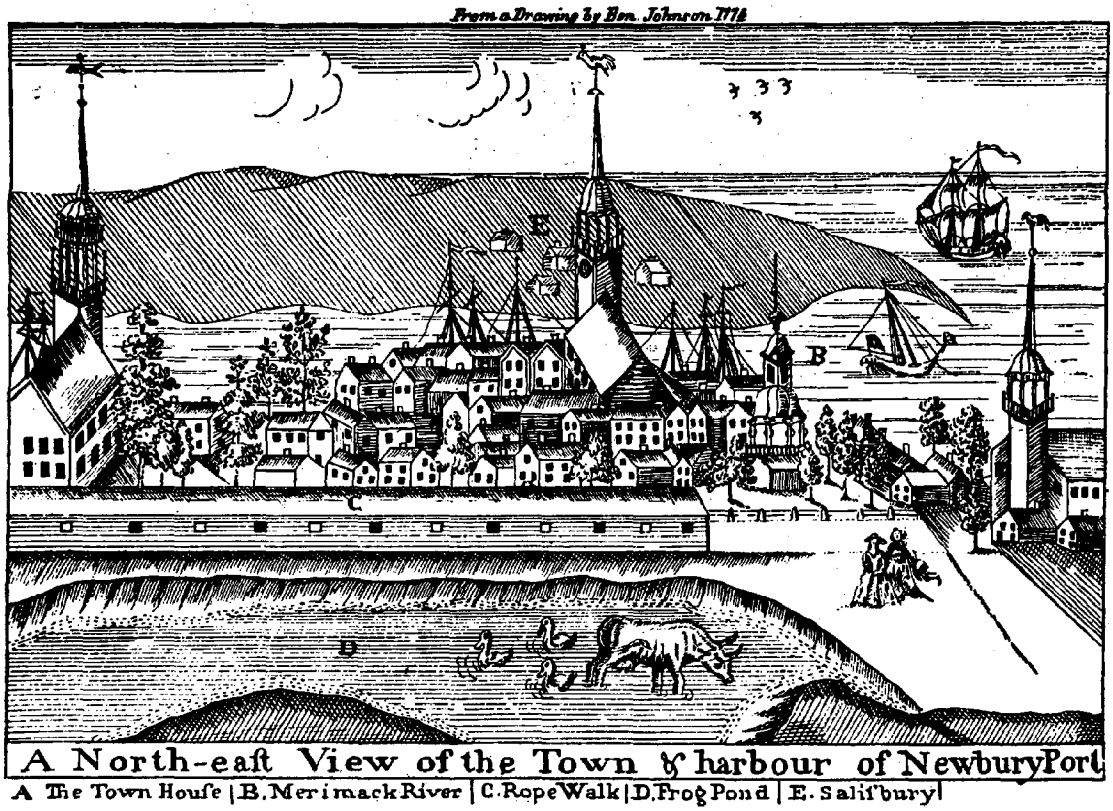


Fig. 7.2. Schematic view of Newburyport harbor, 1774. Drawing courtesy of The Essex Institute, Salem, Mass.

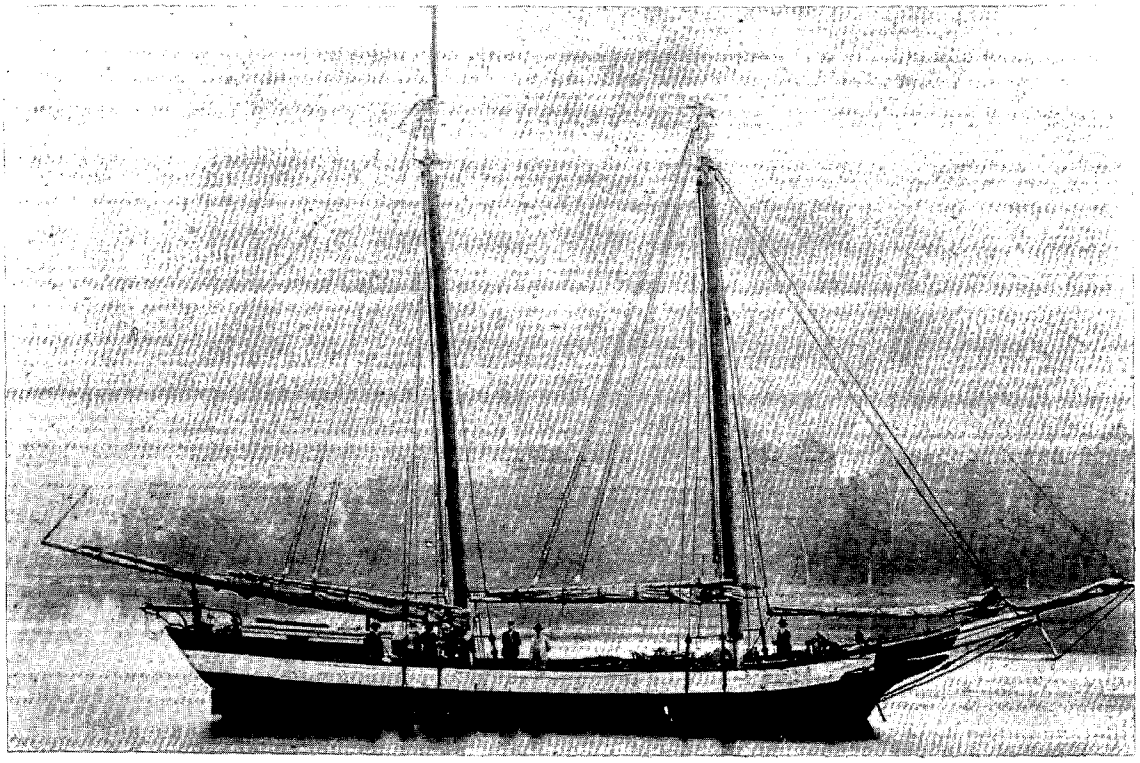


Fig. 7.3. Schooner Polly, built in Amesbury, Mass. in 1805. Originally rigged as a sloop, the Polly is similar to the smaller vessels engaged in international trade in the late 18th century. Photo courtesy of the Newburyport Public Library.

Elizabeth Starkey Roberts, was successively widowed by two merchants who ran the business before her. A detailed inventory of the estate of her second husband, Robert Roberts, gives an excellent picture of the nature of his trade in 1771 (ECPC 23844). Roberts owned two vessels, both schooners and both named Sally. One was evidently old and decrepit, and listed as a "hull... with the iron in her £30." The other was apparently new, and had just returned from the West Indies. The new Sally was of 118 tons burthen, and with its equipment was valued at 213£ 6sh 8p. Her cargo was primarily molasses, amounting to nearly 25,000 gallons, of which 15 percent was sold in Boston and the remainder in Newburyport. The value of this cargo alone was 1543£, or more than seven times the worth of the ship which carried it. The balance of the cargo was comprised of comparatively small amounts of sugar, cotton, and cocoa.

Merchandise from Bristol is often mentioned in accounts of Newburyport's colonial trade, and a consignment of "Bristol goods" arrived for Mr. Roberts shortly after his death. The "goods" were nails of various sizes, "Irish Linnen," and cutlery. The cutlery included marking irons, several dozen shears and scissors, and many sets of "sham" and "real" stag horn knives and forks.

The stock which Roberts kept in his warehouse (24) was worthy of a hardware or general store, and contrasts markedly with the ship's cargo. In addition to the Bristol goods just arrived, there were numerous quantities of nails and cloth of various descriptions. White lead, and "Spanish brown" were bases for paint. Other highlights were assorted fishing lines, window glass of various sizes, bottles of various sizes, pins, furniture fastenings, pewter, silk handkerchiefs, buttons, hammers, razors, skillets, cutlasses, and "one large black pickle pot." A separate entry listed three slaves and the junk in an old barn.

Property descriptions of the area immediately to the east of the Middle Ship Yard show a business which was probably dependent on maritime trade. A barn, tanyard, bark house, and slaughterhouse, all owned by the Greenleaf family, are shown in the reconstruction (2,4,5,6). To the west, on the other side of the Middle Ship Yard was the workshop of a cooper, Parker Noyes (ECRD 73-62). This configuration was probably well planned, and suggests the general nature of business activities. Livestock was purchased from farmers and driven into the barn (5). From here they went to the nearby slaughterhouse (2), carefully located so that the tide would wash away the offal twice a day. The rawhides, perhaps with other skins imported from upriver, were prepared in the tanyard, which in turn was supplied with tannin from the bark house (4). Some of the leather produced was undoubtedly exported. Local butchers may have bought some of the meat, or it may have been sold directly to local customers. Archaeological tests of household refuse of this vintage suggests that some butchering was done at home, the limbs of animals being disjointed and fleshed rather than sawn. Although some venison was eaten, the majority of table meats were beef, mutton and pork. Newburyport's slaughterhouses, however, were concerned primarily with providing ships' stores. Most meat was probably salted and packed in barrels made in the cooperage on the other side of the slip. Once packed, it could easily be loaded on board ship from the adjacent wharf.

The Central Waterfront was occupied by several tradesmen dependent on shipbuilding. In 1739, Timothy Toppan lived on the eastern end and was engaged in

block making in a shop (27) behind his house (ECRD 78:35). His family lived at the same place and practiced this trade for several generations. When his son Enoch's estate was probated in 1797, it included 15 tons of lignum-vitae, or ironwood (ECPC 27828). This wood was imported from the West Indies and was used to make deadeye for ships' rigging (Kochiss 1970:13). Another known artisan in this category was Ambrose Davis, the progenitor of generations of Davis sail makers, who rented a brick building (15) on Ferry Wharf in 1773.

While houses had already been built on the western end of the Central Waterfront in the first quarter of the century, the 1730's saw three more houses built on the eastern end. The one farthest west was the home of the Toppan block makers, which was eventually divided and shared with merchants Starkey and Roberts (22,25). The remaining two (19,20) belonged to a surgeon, Dr. Nathan Hale, whose family was responsible for the privy refuse excavated in Area 4. Hale's own home (20) was set back from the road, while his second house fronted on the street (19). In front of the latter building were two shops (17,18) which he rented to various small businessmen.

Like Dr. Hale's income property, many of the houses along the river had small shops attached in front, reflecting the increased traffic in services and consumer goods on the Central Waterfront. The precise dimensions for one such building (8,9,10,11) are known from property descriptions (ECRD 160:169). The shops (9,11) are but small appendages to the house front, and are separated by the central front door. An alternative arrangement was to use the existing front room of the house as a shop (Emery 1879:232). Unfortunately the house-front shops of both types were generally rented out, and the businesses which occupied them at this time are unknown.

In a few instances, tradesmen had purchased their own shops, and their businesses can be discerned from property records. Timothy Greenleaf, identified in different documents as both a blacksmith and goldsmith, owned a store on Water Street until 1786 (ECPC 11816). Between Greenleaf and the block maker Toppan, was Joseph Parker (22), a wig maker, who lived here until 1762. Later, merchants Starkey and Roberts occupied this site. The presence of these specialized occupations, two of which were verified through excavation, show the varied, almost cosmopolitan atmosphere of the business district. The wig maker, for example, would have been very much out of place in agricultural sections of Newbury where the Puritan prejudices against finery were strong. A story is told of a minister who wore a wig in 1752, causing a considerable stir in the old part of Newbury (Coffin 1845:220).

The activities of the Central Waterfront at this time are generally representative of the Newburyport population as a whole, which by 1773 had grown to about 3500. Labaree (1975:4) has identified the occupations of 600 of the 700 adult males for that year, as shown in Table 7.2. The dominant roles of shipbuilding and maritime trade are clear, even though many of the shipyards were within Newbury's boundaries when the communities were divided (Currier 1877:24; 1906:453). Nearly 60 percent of the men listed were employed in maritime occupations. It was this background which allowed Newburyporters to raise their own private navies during the Revolution.

Table 7.2. Occupations, 1773 (after Labaree 1975:5).

Merchants and Professionals		Shopkeepers and Innholders		Domestic Artisans		Maritime Artisans		Laborers and others	
Distiller	14	Apothecary	1	Baker	9	Blockmaker	6	Laborer	18
Esquire	8	Bookseller	1	Barber	1	Boatbuilder	10	Mariner	30
Gentleman	6	Innkeeper	3	Blacksmith	14	Caulker	15	Porter	2
Lawyer	2	Shopkeeper	21	Bricklayer	3	Cooper	18	Teamster	1
Merchant	36	Tobacconist	1	Butcher	1	Mastmaker	7	Truckman	2
Minister	4			Cabinetmaker	11	Rigger	7	Yoeman	27
Physician	7			Carver	1	Ropemaker	3		
Shipbuilder	7			Chairmaker	6	Sailmaker	9		
Shipmaster	83			Chaisemaker	2	Shipsmith	1		
Teacher	6			Clockmaker	2	Shipwright	60		
				Combmaker	1				
				Coppersmith	2				
				Cordwainer	28				
				Currier	1				
				Dyer	1				
				Glazier	3				
				Goldsmith	3				
				Gunsmith	2				
				Hatter	4				
				Housewright	9				
				Joiner	39				
				Leatherdresser	1				
				Painter	5				
				Perukemaker	2				
				Potter	3				
				Saddler	5				
				Sawyer	1				
				Silversmith	2				
				Stonecutter	1				
				Tailor	8				
				Tallowchandler	1				
				Tanner	3				
				Tinplater	2				
Total	173		27		177		136		79
Percent of adult men*	24.8		3.9		25.3		19.4		11.3

* The occupations of 107 adult men could not be determined.

War and Privateering

The town of Newburyport made several contributions to the naval defenses of the colonies during the American Revolution. The frigates Boston and Hancock were built and equipped here for the Commonwealth of Massachusetts in 1776, as was the ship Proctector in 1779 (Currier 1906:449). Forts were erected on Plum Island and in Salisbury in 1775 (Cushing 1826:15). But Newburyport is far better known for the success of her privateers in capturing British merchantmen.

The Central Waterfront was the site of some significant historic events related to privateering, and later benefitted from the capital generated by this practice. The money behind Newburyport's war efforts came principally from its wealthiest merchants, and none were wealthier than the Irish born Patrick Tracy and his son Nathaniel, owners of the largest wharf in the project area. In sending out a privateer in August of 1775, the younger Tracy became one of the first men to organize a personal navy against the British (Currier 1877:27). During the war, he was sole or part owner of scores of privateers (Currier 1906:637). His navy captured 120 prizes which, with their cargoes, are alleged to have sold for nearly $4,000,000 (Currier 1877:28). Tracy's privateers probably docked at his wharf beside the Middle Ship Yard, and it is recorded that several of the captured vessels and cargoes were sold there at an auction (Currier 1906:630). Yet war was not all prizes and profits. A loan of $167,000, which Tracy made to the government to purchase military supplies is thought to have forced him into bankruptcy in the commerical dislocations which occurred immediately after the war. At least 22 privateers were lost in the war as well. But far more tragic were the fates of more than 1000 men who sailed from Newburyport in the Revolution and never returned.

Several individuals who served in the war later became the new businessmen of the Central Waterfront. In some cases, the prize money these men won on privateering or naval cruises may have founded their businesses. One of these men was Offin Boardman, the young captain of a privateer schooner. On January 15, 1776, his schooner had just returned from a cruise when the British ship Friends was spotted off the mouth of the Merrimack. The Friends was loaded with supplies for the occupation forces in Boston, and apparently had confused Ipswich bay with Boston harbor. Taking advantage of the situation, or so the story goes, Boardman led 17 men in three small boats out to meet the British vessel. Representing himself as a pilot, Boardman was allowed on board with his men who then captured the Friends and brought her into Newburyport harbor (Currier 1906:615). No doubt the story has received some embellishment with time, but the essential facts are probably correct. In any case, it was this Offin Boardman who acquired the Toppan residence (22,25), one of several income properties which he owned at the time of the 1811 fire.

An equally interesting case was that of Abraham Wheelwright, who enlisted in the militia at Newburyport in 1775. Wheelwright served at Dorchester Heights, the battle of Long Island, and the Battle of Trenton (Currier 1896: 641). After he was discharged in 1777 he went to sea in a Newburyport vessel, presumably a privateer. The British captured the ship he was serving on, and sent Wheelwright to prison in Ireland. He escaped, went to sea again, and was captured a second time. After the war, he formed a partnership with his brother, Ebeneezer, and they eventually built a prosperous business trading

with the West Indies. Later, these brothers joined with two other Federalist merchants to develop Hooper's Brick Building (15) into the long Merchant's Row complex, and also to construct the Ferry Wharf Building.

Joseph Plummer may have used a sailor's share of prize money to set up a smaller mercantile business. He sailed on the privateer brig Dalton from Newburyport, which was captured and the crew imprisoned in England (Currier 1906:628). Somehow Plummer was paroled, went to France, and joined the crew of the frigate Alliance in John Paul Jones's squardron. Several vessels were captured, and Plummer was placed in one of these prizes as a crew member. They sailed to Norway, where Plummer remained long enough to learn some Norwegian. Later, according to his son, he would repeat the story of his adventures to his children and speak in Norwegian for their amusement (ECPC 50432). In Newburyport he started a business as a merchant, and in 1809 he and his son bought one of the new stores in the North Row (ECRD 186:298).

Aftermath and transition 1775-1790

The American Revolution was a serious economic blow to the Colonial merchants and shipbuilders of Newburyport. The ports of the British commonwealth were shut off to American trade, and the carrying business for British merchants was ended. Colonial merchants, their capital investments lying idle, went bankrupt, and by 1787 very few were still in business (Labaree 1975:67). Until new markets were found, there was not enough trade to employ existing American vessels, and so there was little market for new ones (Morison 1921: 34). With the English as their principal buyers, shipbuilders found that orders for new, large vessels all but ceased. The same port which produced 66 and 90 vessels in peak Colonial years may have produced as few as 54 in the entire decade of the 1780's (Cheney 1964:95). Although part of this difference may reflect incomplete records and changes in the distinction between a boat and a vessel, there is no doubt that shipbuilding was at a low ebb.

While Newburyport finally regained its mercantile prosperity in the 1790's, the shipbuilding industry did not recuperate. Its collapse, in fact, may have begun before the Revolution. The virgin forests of the Merrimack Valley, which had so impressed travelers a century earlier, were vanishing. Shipbuilding itself had long since exhausted local timber supplies, and settlement had cleared the forests far up the Merrimack. In 1787 a visitor to the city noted that Newburyport was bringing timber in rafts from 100 miles upriver, almost at the headwaters (Dow 1921:102). As suitable lumber became more scarce, shipbuilding was unable to compete with other commercial ventures.

By the 1780's, the Merrimack Valley was well settled with farms and towns. Younger sons and daughters were moving north into interior New Hampshire where land was rocky, but available (Emery 1879:106). In an age when inland trade was channeled by topography, moving by ox cart and boat in the summer and sledge in the winter, Newburyport became the center of import and export trade. This configuration of settlement produced unequalled commerce for the town. Farmers arrived from 200 miles inland bringing with them, cheese, beef, and butter. They would exchange these products for dry goods, hardware, molasses, sugar, iron, and salt. Usually rum was included on their shopping lists as well (Anon. 1855). In the winter, sleighs would arrive from as far north as the Canadian border. At times, up to 100 sleighs and wagons from the country would arrive in a single day (Lunt 1873:68).

Much of this trade focused on the Central Waterfront. A row of oat troughs was nailed to the old meetinghouse in Market Square so the "country traders" could feed their horses (Emery 1879:228). Shops on the Central Waterfront advertised broadcloth and beaver hats to tempt both country visitors and port residents who found themselves suddenly prosperous (Atkinson 1935:48). Other stores on the square sold everything from raisins to ribbons and gauze fans to slippers (Emery 1879:35). Some good-natured hard trading evidently took place in these shops. The cosmopolitan merchants, many of whom had travelled the world earlier in their careers as supercargoes or sea captains, were amused by the farmers' lack of sophistication and called them "aboriginees." The country people responded with barbed references to the merchants' prices: "You ain't got none of that ere four penny calico you can sell for six cents, ...have yer?" (Andrews 1905:17).

Newburyport's commerce at this time changed much less from its Colonial pattern than did that of other Massachusetts ports (Morison 1921:151). Shingles, staves, and boards required less choice timber than did shipbuilding, so these exports continued (Dow 1921:102). According to contemporary descriptions, most of Newburyport's exported items still went to the West Indies, and the sugar and molasses, which returned, continued to be commercial staples and raw materials for the town's distilleries (Dow 1921:98,134). The 1790's did see the development of a substantial fishing fleet, and the new industry contributed exports in the following years (Fuess 1935:359). Also, in certain aspects of their trade Newburyport merchants were venturing farther abroad and seeking new markets.

One variation in trade was to exchange the usual exports from the West Indies for coffee or cocoa. Sometimes these returns were brought home to satisfy the rising popular taste for these items, but often they were carried to Antwerp and traded for gin and manufactured goods. Some local products were exported to the Mediterranean in return for brandy, soap, olive oil and dried fruit. Occasionally West Indian products would be carried to northern Europe and exchanged for iron and hemp (Anon. 1855).

Many of the vessels which were built in Newburyport and used for this trade were similar to the Polly, shown in Fig. 7.3. The Polly was built in Amesbury in 1805 and was originally rigged as a sloop (Leavitt 1970:107). At a mere 48 tons, she was the size of the smaller vessels which carried much of the Colonial and Federalist trade to the West Indies and Europe. The Polly was unique only because her career spanned some 113 years.

Trade expanded at a phenominal rate in the 1790's because Newburyport was re-exporting West India goods to the warring European powers. The town was also acting as an entrepot for a large hinterland with a growing population. Many of the manufactured goods for this area were imported, and a considerable volume of regional products was exported in return. Table 7.3 compares the vessels registered in Newburyport at the beginning and peak of this trade, and gives a good indication of the coming Federalist prosperity. Contemporary accounts relate that there was not enough room on the wharves for all the shipping, and vessels had to anchor and wait their turn (Anon. 1855). At times, 20 craft loaded with molasses lay waiting to unload at a single distillery (Emery 1879:226).

Table 7.3. Vessels registered in Newburyport.*

Vessel Type	1789	(Tonnage)	1804	(Tonnage)
Ship	2	(507)	23	(5658)
Bark	0	(0)	1	(169)
Brigantine	15	(2241)	13	(1718)
Brig	1	(148)	48	(6418)
Schooner	11	(677)	59	(5765)
Sloop	11	(874)	9	(638)
Total	40	(4447)	153	(20,366)

*After Coffey (1975:223-227).

8. EVOLUTION OF THE FEDERALIST BUSINESS DISTRICT, 1790-1815

Renewed Prosperity

> ... I left Newbury Port, the 13th at ten in the morning, and often stopped before I lost sight of this pretty little town, for I had great pleasure in enjoying the various aspects it presents. It is in general well built, and is daily increasing in new buildings. The warehouses of the merchants, which are near their own houses, serve by way of ornament, and in point of architecture resemble not a little our own greenhouses (de Chastellux 1782 in Dow 1921:84).

If the Marquis of Chastellux could have revisited this "pretty little town" in 1810, he would certainly have been amazed at how much it had developed. The port's Colonial merchants were succeeded by an entirely new group of entrepreneurs, unrelated to the previous generation, whose talent and good fortune brought the town unprecedented wealth. New three- and four-story brick buildings replaced the older Colonial shops. Old wharves were extended, and new warehousing facilities were constructed to accommodate the port's increased volume of trade. The homes built for these Federalist merchants, above the waterfront on High Street, displayed a grace and elegance unsurpassed in any other New England seaport.

The merchants' success benefitted nearly all of the port's inhabitants. In 1790, the town's population numbered 4847; in 1810 it had increased to 7634. In this same period the average adult male's worth tripled to over $5000 (Labaree 1975:132). In 1802, the town's entire ratable property was estimated at just $3,754,920, but by 1810 it amounted to over $7,000,000 (Cushing 1826:26).

The source of this renewed wealth was the development of neutral trade with Europe during the Napoleonic Wars. Upon the outbreak of war in the early 1790's, between England and France, the British Navy blockaded almost all of Europe's ports to the French and her continental allies. This established America as the sole neutral carrier between Europe and her colonies. Taking advantage of this status, Yankee merchants quickly assumed the bulk of the trade which the French ordinarily would have reserved for themselves--transporting West Indian produce to markets in Holland, Denmark, Sweden, and Russia. The Yankees had, in effect, a kind of monopoly on this most lucrative commerce.

> ... This carrying trade operated in two stages: smaller vessels ran down to the West Indies with fish, lumber, and miscellaneous New England manufactures, to be exchanged for three principal products of the islands: molasses, coffee, and especially sugar. In 1807 ninety-three voyages were made to the Caribbean area. These imports were then entered at Newburyport, duties paid, until enough had accumulated in a merchant's warehouse to make up a cargo for one of his ships or barques to Europe. In 1807 thirteen vessels cleared Newburyport with West Indies produce, to be exchanged in the ports of northern Europe for a variety of European goods, cloths, spirits, and hardware. Only rarely did a vessel return with the full profits from the sale of its outward cargo invested in Continental products. Much of the grain came back in the form of bills of credit drawn on London or Amsterdam. Out of the proceeds from these European voyages, merchants then purchased more New England goods for shipment to the West Indies, starting the cycle over again (Labaree 1975:131-132).

The impact of neutral trade on the port's commerce can be seen in the growth in size and carrying capacity of its fleet. The aggregate tonnage of vessels hailing from Newburyport nearly tripled between 1790 and 1809, reaching a peak of 38,856 tons in 1810 (Smith 1854:226). By this time, Newburyport's merchants preferred larger vessels. In 1810, 17 full-rigged ships and 15 brigs were constructed for them (Labaree 1975:175), but only a fraction of these were built in the shipyards of Newbury or Newburyport (Cheney 1964:105 ff.). Although local yards apparently had sufficient capacity, they evidently were unable to compete with other American shipbuilders, and most Newburyport merchants bought their vessels elsewhere.

Embargo

A major interruption in the United States' foreign trade occurred in December of 1807 with the passage of the Embargo Act. This act, and the commercial restrictions which followed its repeal, effectively stopped the exportation of American produce and the reexportation of foreign goods from American ports. For a time, Newburyport's economy stood still (Labaree 1975:151-152). Unable to export local produce to foreign markets, the town's merchants no longer had use for country goods. Unable to sell their goods, the inhabitants of the watershed communities were without a means of exchange. Vessels continued to return to Newburyport in 1808, but the cargoes they carried had no immediate domestic or foreign market. The port's warehouses were filled to overflowing, but the commodities they contained were temporarily worthless (Labaree 1975:153).

The years of Embargo and economic stagnation do not appear to have caused any major changes in the appearance of Market Square or the Central Waterfront, yet a significant change in the pattern of land ownership on the waterfront did take place.

Redevelopment and Subdivision of the Waterfront

A title search of the stores and warehousing facilities along the Central Waterfront indicates that there were two distinct stages of property tenure during the early Federalist Period (Fig. 8.1). The first was a phase of property consolidation and building, lasting from 1795 to 1803. Unlike Colonial shipping, which often engaged the same vessels in all routes of the triangle trade, Federalist commerce depended on small vessels to bring West Indies goods to Newburyport, where they were reexported in large ships. Naturally this required the construction of greater trans-shipment facilities: the new warehouses of the Central Waterfront.

The second phase, beginning in 1805 and ending with the War of 1812, was one of subdivision. With the reduction in international trade, and no more windfall profits to come in the immediate future, wharf property may have become more costly an investment than any individual merchant was willing to afford, and its division may have been a financial necessity. In any case, these changes in ownership correspond generally to the rise and fall of Federalist prosperity.

An example of this sequence is given by the transactions of William Farris and Ebenezer Stocker. As business partners, they owned a number of vessels engaged in the West Indies trade, and had mutual interests in banking and insurance (Labaree 1975:212, 217, 218). In 1799, Farris and Stocker joined with Abraham and Ebenezer Wheelwright in the purchase of the Ferry Wharf property. Around the brick core structure, built there ca. 1770, they constructed a large

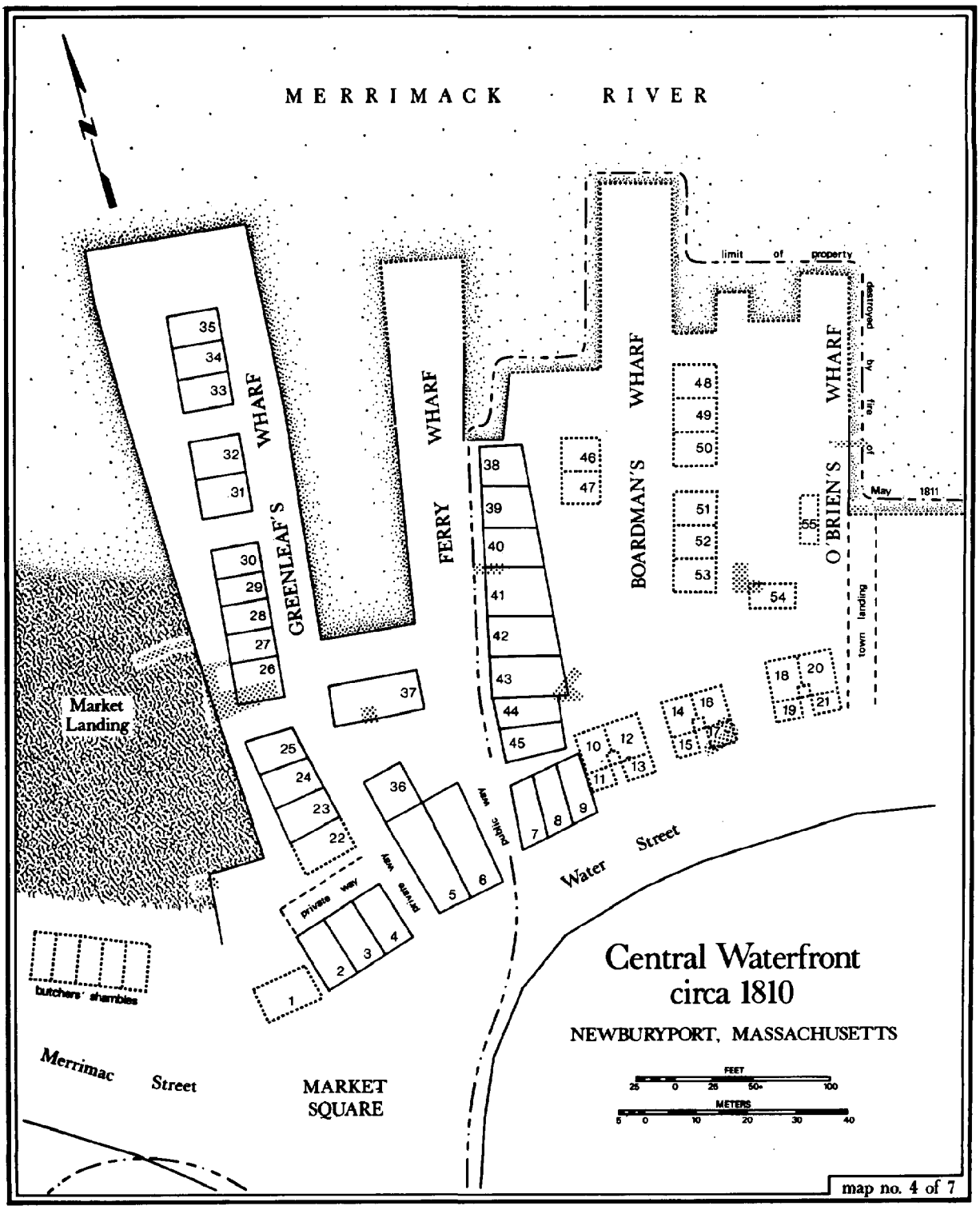


Fig. 8.1. The Federalist port shortly before the Great Fire of 1811.

Fig. 8.1. Central Waterfront, 1810 -- Key

Address	Building	Owner	Function/(Occupant)
Market Square			
1	store	Joseph Plummer	groceries
2	brick store	William Russell	groceries
3	brick store	Thomas Cary	wine
4	brick store	Nicholas Johnson	groceries?
5	store	John Davenport	hardware & ship chandlery (Henry Frothingham)
6	store	Anthony & Moses Davenport	groceries
Water Street			
7	brick store	Daniel Burnham	groceries
8	brick store	John Wood	groceries
9	brick store	John Wood	groceries (William Bailey)
10	1/2 house	William Watkins	(Andrew Palmer)
11	shop	William Watkins	unoccupied
12	1/2 house	William Watkins	(Joseph Davis)
13	shop	William Watkins	hatter (Humphrey Cook)
14	1/2 house	Offin Boardman	(John Odiorne)
15	shop	Offin Boardman	groceries (Joseph Edwards)
16	1/2 house	Offin Boardman	(Samuel Crowthers)
17	shop	Offin Boardman	auctioneer (Joseph Brown)
18	1/2 house	Charles & William Titcomb	unoccupied
19	shop	Charles & William Titcomb	unoccupied
20	1/2 house	Joseph O'Brien	residence
21	shop	Joseph O'Brien	(Joseph O'Brien & son)
Greenleaf's Wharf			
22 #1	store	Nicholas Johnson	merchant (William Boardman)
23 #2	brick store	Elias Pike	merchant
24 #3	brick store	Thomas Cary	merchant
25 #4	brick store	Walter Todd	merchant
26 #5	store	Paul Simpson & Sewall Toppan	
		Sewall Toppan	merchants
27 #6	store	John Noyes	merchant
28 #7	store	John Noyes	merchant
29 #8	store	Thomas Follansbee	merchant
30 #9	store	William Hoyt	merchant
31 #10	store	John B. Titcomb	merchant
32 #11	store	John Peabody	merchant
33 #12	store	Paul Simpson &	
		Sewall Toppan	merchants
34 #13	store	Thomas Cary	merchant
35 #14	store	John Greenleaf	merchant
36	shop	Nathan Long	
37	brick store	Abner Wood & Joshua	
		Joshua Greenleaf	merchants

Fig. 8.1., Cont., 1810.

	Ferry Wharf			
38	#1	brick store	Robert Dodge	flour
39	#2	brick store	Benjamin Boardman	
40	#3	brick store	Robert Dodge	flour, nails, etc. (Joseph Cutler)
41	#4	brick store	A. & E. Wheelwright	groceries (Zebedee Cook) rigging loft (Thomas Pritchard)
42	#5	brick store	A. & E. Wheelwright	groceries (Jacob Stone)
43	#6	brick store	A. & E. Wheelwright	groceries, iron, etc. sail loft (Joseph Stanwood Jr.)
44	#7	store	Samuel Brown	groceries, ship chandlery
45	#8	store	Samuel Brown	warehouse (John Brown)
46		store	William Watkins	
47		store	William Watkins	
	Boardman's Wharf			
48		store	Offin Boardman	merchant
49		store	Offin Boardman	lumber, hardware, etc. (Amos Tappan)
50		store	Offin Boardman	merchant
51		store	Offin Boardman	(Benjamin Boardman)
52		store	Offin Boardman	merchant
53		store	Offin Boardman	(John Odiorne)
54		barn	Charles & William Titcomb	
	O'Brien's Wharf			
55		warehouse	Joseph O'Brien	

Note: Dotted lines indicate approximate size and location of known structures.

warehousing and wholesaling complex, Merchant's Row (38-45). The row consisted of eight adjoining three-story brick stores, and was occupied by a number of commission merchants and maritime artisans, besides the owners themselves. While in business here, Ebenezer Stocker sold Caribbean sugar, cigars, glass, sheeting, duck, and a variety of other goods from the store at No. 1 Ferry Wharf (38). Stores at 2 and 3 Ferry Wharf (39, 40) were rented to commission merchants Robert Foster and Abner Wood, who dealt in similar commodities (Herald: May 22 and 29, 1803). The functions of the other stores in the Row at this time are unknown.

At the head of Ferry Wharf, on Water Street, Farris, Stocker, and the Wheelwrights erected a row of three more stores (7, 8, 9; now known as the "Ferry Wharf Building"). This row, also brick and three stories high, was part of the Market Square wholesaling and retailing area. The occupants of these stores dealt primarily in groceries.

By 1800, both Farris and Stocker had amassed considerable personal fortunes, ranking them the eighth and the fifth wealthiest men in town, respectively. Because of the intensifying naval conflict with France, however, both soon found themselves in financial trouble. In 1805, they sold their shares in Merchant's Row and the Ferry Wharf Building to the Wheelwrights, who in turn subdivided the property and disposed of all but three stores. Yet the economic difficulties which beset Farris and Stocker continued to grow. In 1807, the town assessor listed Farris' estate as valued at $7000--$37,000 less than it had been just seven years earlier. Although he remained an active member of the community until his death in 1837 at the age of 84, Farris never recovered his fortune, and was forced to live the last years of his life on a government pension. Stocker did not fare much better, and left Newburyport in 1808 (Labaree 1975: 212, 217, 218).

The sale and division of Merchant's Row signalled the beginning of a significant change in the pattern of ownership on the waterfront. The Ferry Wharf was no longer owned by a single person or held in undivided shares by a partnership. The land and buildings on it were now owned by a number of individuals free to use and convey their property as they saw fit. Other wharves in Newburyport were divided in a similar manner as the uncertainties and risks associated with neutral trade grew.

In 1810, four sets of row buildings crowded the length of Greenleaf's Wharf (22-35). The building closest to Market Square, at the head of the wharf, was a four-story brick structure (The John Greenleaf Building) partitioned by fire walls into four separate stores (22-25). Trapezoidal in outline, the complex conformed to the irregular slope of the parcel on which it stood. This row of stores was advertised as "... one of the best stands for business in town..." (Herald: May 1, 1811). The three other rows of stores on the wharf (26-35) were rectangular, hip-roofed, wooden structures three and four stories high with shuttered windows, and doors opening onto both sides of the wharf. All these buildings were erected by John Greenleaf between 1800 and 1810. Whether he built them on speculation or intended them for his own use is not clear. What is clear is that at the time of the first sales in July of 1810, a plan existed depicting the intended division of the land, with each store numbered and the ways to and from them clearly shown. More than half of the titles to the stores on the wharf were transferred in a single day. Although John Greenleaf eventually sold all but one store, he retained title to the wharf, thereby earning an

income from the wharfage he charged. In August, Greenleaf also divested himself of two of the three stores on Ferry Wharf which he had bought five years before from the Wheelwright brothers.

The only other structure on the wharves known to date from the Federalist period was built in partnership by Abner Wood and Joshua Greenleaf. Greenleaf, of course, was from an old family of Newburyport merchants. Wood, a newly successful merchant, made his fortune in the neutral trade, multiplying his property fifty-fold from 1800 to 1807. He owned several vessels employed in voyages to Northern European ports, and held stock in the Newburyport Bank (Labaree 1975:219). Together Wood and Greenleaf built a spacious four-story brick building (37) between Greenleaf's and Ferry wharves. The first advertisement mentioning this structure appeared in the Herald on December 12, 1810. It states, "Joshua Greenleaf has removed to the new Brick store opposite the Ferry Wharf," where he had for sale tar, rosin, ship chandlery, hardware, turpentine, iron, lead, nails, and cheese. Abner Wood ran a similar advertisement for his store in February of 1811. Their partnership ended in 1816 when they divided the new building between themselves.

Business in 1810

Even as Newburyport merchants coped with uncertainty in maritime commerce and redistributed their holdings on the central wharves, there was brief improvement in trade with the Continent. The Non-Intercourse Act of 1809 was repealed in May of 1810 by Macon's Bill No. 2, and international trade resumed. One can easily imagine the appearance of the waterfront in September and October of 1810 as the port's fleet returned from their first voyage to the Continent in three years. The waterfront, congested with vessels of all descriptions, and shrouded in an early morning autumn mist, must have had the appearance of a forest of spars and masts. The tall brigs, schooners, and ships entering the harbor at that time were laden with iron, hemp, and cloth from the Baltic; sugar, coffee, and cocoa from the Caribbean and South America; and figs, raisins, and prunes from Spain and the Mediterranean (Labaree 1975:174-175). Also crowded at the wharves were numerous smaller crafts, hailing from Portland, Boston, New York, Baltimore, and Alexandria. The wharves, too, must have been alive with stevedores unloading ships, and carts and drays creaking and rumbling as they lumbered along the wharves to the shops and warehouses.

The cargoes which came into Newburyport changed hands through many routes. If the goods were not already spoken for by a particular merchant, a captain might elect to auction the cargo from on board ship:

> To be sold at Public Auction on Thursday Next, at 11 o'clock. On Board the Schooner Stork laying at Capt. William Coomb's Wharf. 40 Chaldrons Richmond Coal (Herald:August 3, 1802).

A captain or merchant might also rent a warehouse on one of the wharves and sell his lading from there. Most often, however, the shipment was consigned to one of the port's commission merchants, who would dispose of it for a percentage of the selling price. Abraham and Ebenezer Wheelwright of Merchant's Row were probably commission merchants, as well as importers. In November of 1810, they advertised flour, raisins, butter, coffee, glass, corn, rye, and iron. Two months later the list of articles included coppers (ferrous sulphate used in

tanning), brace and fence chains, sail needles, twine, umbrellas, lead, shot, nails, crockery ware, coal for grates, and salt.

Merchant's Row and similar waterside structures were used not only by merchants, but also by other tradesmen and artisans whose occupations were allied to the construction and provisioning of ships. Less is known about these people because they were invariably renters, rather than property owners, and they seldom advertised their trades in local newspapers. It is only because their lofts in Merchant's Row were destroyed in the 1811 fire that two such artisans have been identified. An account of that disaster mentions a sail maker, Joseph Stanwood, and a rigger, Thomas Pritchard (Herald:June 5, 1811).

Opposite the Central Waterfront, Market Square was a lively, bustling place, particularly on market days. Ten years earlier the meeting house had been razed and the site laid out by the town and local shopkeepers as a public way and market (Currier 1906:443). Farmers arrived early in the morning, their wagons groaning under the bounty of the harvest, to vie for a space in the square where they could sell their produce. The port's butchers and fish mongers had shanties erected at the entrace to the Market Landing on the north side of the square, where they hawked their wares to the town's cooks and housewives. The manner of exchange was flexible, and most shopkeepers were willing to sell "... by wholesale or retail on good terms, for Cash or Country Produce." As one resident remembered:

> The Ferry was one of the great thoroughfares in those days, and the Ferry Wharf was a place of active trade. At the head of the Wharf stood, facing on the Market, Mr. Anthony Davenport's and Mr. John Davenport's shops ... Mr. [Anthony] Davenport's was the centre of the Country-folks Exchange, and the best butter was to be found there and the freshest eggs, and the nicest moulds of barbara tallow (Wood 1863).

By this time, a majority of the old Colonial housefront shops had been replaced by Federalist stores. These were spacious three- and four-story brick buildings such as the Phenix [sic] and Blunt Buildings. Along the Central Waterfront were the Ferry Wharf Building (7-9), the Davenport Building (5,6) and the eastern section of the North Row (2-4). These were all three-story brick structures containing two to three stores, each three bays wide. Businesses were segregated vertically in the new quarters. On the first floor were shops which initially included the businesses of the owners. Evidently doctors, attorneys, insurance agents, printers and tailors found the second floor chambers satisfactory for their needs. Angier March, for example, located his insurance business in the chambers above John Davenport's store (Herald:September 28, 1810). The function of the third floor is unknown, but was probably used for residences, additional office space, or storage. The cellars served for storage as well.

The older Colonial shops, such as those below the Ferry Wharf Building on Water Street, were small and cramped by comparison. Earlier descriptions of these properties in newspaper advertisements demonstrate just how obsolete these facilities were in urban Newburyport:

> To Let, a convenient Dwelling House, situated on Water Street, with a good shop in front. It would be convenient for a boardinghouse or for a trader... inquire of the Printer (Herald:June 28, 1799).

> To be sold at Auction... A DWELLING HOUSE, with 3 rooms on one floor, & a shop in front, containing eleven rods of land, situated in Water Street... (July 5, 1799).

Three such residence and shop combinations in two separate buildings (14-19) were owned by Offin Boardman. Chapter 3 has presented the archaeology of one of these structures whose foundation was exposed in excavation. Boardman apparently did not live in any of his Water Street properties, but rented them out separately to various tenants. The two stores of one building were occupied by Joseph Edwards, a grocer, and Joseph Brown, an auctioneer. John Odiorne and Samuel Crowthers were apparently residents in this same structure (Gilman and Gilman 1811:129). Paul Bishop, a tailor had a brief tenure in Boardman's third store in the adjacent building (Herald:October 5, 1810).

The businesses within Market Square and along State Street were already segregated by the types of goods they sold and the services they provided. The most prestigious businesses were located above the square on State Street. Here were the bookstores and stationers, insurance companies, law offices, crockery shops, and jewelers, as well as the town's foremost inn, the Old Wolfe Tavern. At the corner of State and Pleasant streets was a group of 14 stores which specialized in clothing and in ladies' and gentlemen's furnishings. In Market Square itself, dry goods merchants and apothecaries tended to cluster on the west and south sides. Most of the stores on the north and east sides specialized in groceries, produce, spirits, and West India goods. Because of their close proximity to the wharves, many of them also carried ship chandlery and hardware.

The business of Joseph Plummer may be considered typical of the Square's grocery shops. Plummer, whose Revolutionary War dossier was covered in the previous chapter, purchased a store (1) on the north side of Market Square from John Greenleaf in 1809 (ECRD 186:298). Plummer and his son, Joseph Jr., ran a grocery business here until 1810, when the elder Plummer died. The inventory of his estate, made in March of 1810, describes the diversity of goods offered at his shop (Table 8.1). Although this inventory lists quite an assortment of items for sale, they are all similar in that they are things which would have been commonly purchased for domestic or household use. In contrast to the stores on the wharves behind him, the variety of items at Plummer's store is large, while the quantity on hand is relatively small.

Economic Decline

The affluence of Newburyport ended with the reinstatement of the Non-Intercourse Act in February of 1811, and with Madison's declaration of war with England in 1812. The two years of embargo, blockade, and war, which followed, destroyed Newburyport's foreign commerce.

> When Newburyporters complained that the War of 1812 was ruining their fortunes, the charge was not exaggerated. In the three years between 1812 and 1815, the town's total valuation dropped from $6,074,600 to $3,853,200, less than two thirds of the prewar figure. Valuation had already fallen by over $600,000 in the five years of Embargo, Non-Intercourse, and the Great Fire, so that the over-all loss reduced the Newburyporters' worth to nearly half of 1807's high-water mark. Few citizens escaped the paralyzing effects of

Table 8.1. Inventory of Joseph Plummer's Store, March 9, 1810 (ECPC 22153).

Qty.	Item	Value	Qty.	Item	Value	Total
21"1"7 Wt	Sugar	218.22				218.22
5"3"2 Wt	Rice	20.19	572 Wt	Cotton	105.01	125.20
104 galls	Brandy	116.32	170 galls	Rum	167.94	284.16
149 galls	Wine	170.20	12 galls	Molasses	7.20	117.52
887 Wt	Coffee	169.20	128 Wt	Salts	7.71	176.91
303 Wt	Tea	224.07	30 Wt	Honey	3.05	247.12
1 bbl	Pork	14.00	13 qtls	Fish	24.50	38.50
78 Wt	Raisins	3.68	14-1/2 Wt	Pepper	3.63	7.31
31-1/2 Wt	Pimento	7.87	32-1/2 Wt	Ginger	2.93	10.80
2-1/2	Cloves	2.63	2-1/2 Wt	Cassia	1.25	3.88
6-3/4 Oz	Nutmeg	2.53	8 Wt	Bees Wax	2.66	5.19
65-1/2 Wt	Tallow	11.79	10 Skain	Yarn	.80	12.59
1/4 m	Flints	1.25	1 Pair	Hose	.75	
1	Candle Stick	.56				2.56
7-3/4 Doz	Small Lines	.97	1 Pair	Shoes	.75	1.72
1-1/4 Doz	Soap	.53	13-1/2 Wt	Indigo	32.70	33.23
2 Pair	Steel Yard	2.25	3 Pair	Mittens	.37	2.62
7-1/2 Wt	Powder	6.75	1·1·23 Wt	Shott	17.52	24.27
	Mustard Seed	.50		Cocks	.18	
	Twine	.09		Cand.	.10	.87
8	Nests Boxes	4.80	72 Wt	Chocolate	16.86	21.66
3 Reams	Paper	3.06	14 Wt	Soap	.84	3.90
124 Wt	Cheese	2.70	1"2"26 Wt	Allum	13.89	16.59
3"0"0	Copperas	10.50	1"2"24	Red Wood	6.00	16.50
9"1"21 Wt	Log Wood	23.59	8	Wooden Cocks	1.34	24.93
13-1/2 Yds	Tow Cloth	1.68	8 Yds	Cotton Cloth	1.76	3.44
1 bbl	Flour	8.50	39 Wt	Flour	1.72	10.22
36 Wt	Candles	5.08	3 Bottles	Oil	1.75	6.83
243-1/2 Wt	Cut Nails	25.97	14-1/2 m Wrt	Nails	23.22	49.19
541 Wt	Clover Seed	37.87	33 Wt	Starch	4.62	42.49
13	Brooms	1.83	9	Demijohns	9.00	10.83
2	Stone Jugs	.84	1/2 Doz	Jugs	.24	1.08
1 Doz	Bottles	.63	1-1/2 Bushels	Oats	.65	1.28
2 Bushels	Flax Seed	1.00	1 Cwt	Chalk	1.50	2.50
32	Baskets	4.00	6	Firkens	1.70	5.70
1	Butter Pot	.12	1	Dipper	.15	
1-1/2 Wt	Yarn	.35				.62
9	Shovels	7.56	4	Pails	.40	
	Tobacco	.13				8.09
7	Barrel Covers	.63	400	Segars	.80	
	Pork	1.00				2.43
2	Frying Pans	1.75	4 Large	Casks	15.50	17.25
6	Led Weights	.58	1-1/2 Wt	Iron Weights	5.25	5.83
	Scale Beam & Scales	7.00	3	Seth Measures	1.50	8.50
	Liquor Measures & Shop Tools					4.00
	Old Iron, Old Casks			Old Boxes & Wood		5.81

> Embargo and war. Average wealth per poll dropped from 1807's $5089 to $2716 at war's end. But the median fell even more sharply, from $1600 to $500. Hardest hit were the maritime artisans, mariners, and laborers, whose skills and services were no longer needed on the grass-covered wharves... (Labaree 1975:200).

In other accounts of the period, the town's historians have placed part of the blame for the port's economic collapse on the construction of the Middlesex Canal in 1803 (Cushing 1826). The canal diverted the interior trade with northern New England directly to Boston, instead of through Newburyport via the Merrimack. Not only was the flow of agricultural produce and manufactured goods interrupted, but essential supplies of lumber and wood were all but cut off. Had the Middlesex Canal not been built, lamented one historian, "... the whole difficulty afterwards experienced by the town in procuring supplies of wood required by our ship-builders, and even for fuel, would have been avoided, and a cheap and direct supply have always been available" (Smith 1854:207).

It would be an oversimplification to attribute Newburyport's decline as a port to the construction of the canal and the disastrous effects of embargo and war. The truth rests with the radical alteration between 1810 and 1825 in the manner by which commerce was conducted. Most second-class seaports in Massachusetts were withering under the influence of Boston. Large cargoes, both imports and exports, gravitated to Boston, as did the region's retailers.

> ... Foreign commerce now requires a larger capital than formerly, and the profits on it are less. We are beginning to perceive and appreciate the importance of encouraging and protecting domestic industry, for the most substantial reasons: ... we lose our population, whilst other towns gain it. Boston, for instance, by reason of the immense accumulation of wealth in the hands of its inhabitants, becomes by the laws of political economy, a permanent market as well for domestic manufactures and products, as for imported articles. Amesbury, Lowell, Dover, are the sites of vast manufactories, and thither our mechanics and traders emigrate, following the concentration of capital, wherever it takes place. But we on the other hand, have neither natural sites for manufactories, nor the immense accumulation of riches, which should secure to us, at present, the means of successful competition with any of those places, to which the recent revolutions in the conduct of business have imparted such great accession of wealth or population (Cushing 1826:113).

In the ten-year period between 1810 and 1820, the port's fleet lost more than two thirds of its total tonnage, and the town population decreased by ten percent. The 1820 manuscript census makes it clear that the majority of those who left town during this period were adult males, between the ages of 16 and 25.

> ... Newburyport has been from that time, almost without cessation, the prolific exporter of young men. How else do you account for the great number of Newburyport youth annually exiled, and scattered over the Union in eligible and profitable situations, --from Boston to New Orleans, and from New York to the Mississippi (Smith 1854:190-191).

The Great Fire

None of the period's events had so marked an effect upon the appearance of Market Square and the Central Waterfront as did the Great Fire of 1811. The holocaust started on the evening of May 31, in a stable in Mechanic's Row, on Inn Street, and quickly spread to neighboring buildings. Within a few hours, half of the town's commercial district was in flames. The fire laid to waste 16 1/2 acres "... in a part of the town the most compact, and containing a much larger proportion of the wealth of the town than any other part" (Herald:June 5, 1811). Nearly 250 shops and dwelling houses were burned, including all the dry goods stores in town, four printing offices, the custom house, the post office, two insurance companies, the Baptist meeting house, four bookstores, and the town library. The loss of property was estimated in excess of $1,000,000 (Gilman and Gilman 1811).

As depicted in Fig. 8.1, the north side of Market Square escaped destruction, while the Ferry Wharf Building, Merchant's Row, and all the property east of it were extensively damaged. Shortly after the fire, two stores on Greenleaf's Wharf (28, 31), were organized to receive donations of food and clothing for victims of the fire (Herald:July 9, 1811). Liberal contributions were donated from surrounding communities, and from cities as far away as Boston, Philadelphia, and Charleston, S.C. (Gilman and Gilman 1811; Smith 1854: 188-189).

Because of the fire, there was an enormous dislocation of many of the town's merchants and shopkeepers. Some established temporary quarters elsewhere in town. William Boardman, Robert Dodge, Elias Pike, and others moved to warehouses of Greenleaf's Wharf until their stores could be rebuilt. For other merchants the loss was too great, and they were forced to sell their property and leave town.

Rebuilding

The fire had the effect of removing nearly all the Colonial buildings from Market Square, and the subsequent rebuilding established the integrity of Federalist architecture which characterizes the area today. On June 14, 1811, the Massachusetts Legislature passed "An Act to secure the town of Newburyport from Damage by Fire." This act stipulated that all major stores and dwelling houses erected between Market and Federal streets would have to be built of brick or stone. The town subsequently enacted a more stringent code, restricting the height of wooden structures in the area to ten feet. To make sure the new building code was heeded, the selectmen authorized a committee to receive applications from individual wishing to erect buildings of material other than brick or stone (Herald:July 16, 1811).

Contrary to some recent articles by local historians, the rebuilding of Market Square and Merchant's Row on Ferry Wharf was extremely rapid, as the following newspaper article demonstrates:

> REBUILDING -- We understand the present owners of the land from Inn street, (Mechanic's Row) round Market Square to State-street, and up to Pleasant street, desolated by the late fire, intend to erect a range of brick buildings, uniformly three stories high, the present season. --In short the music of the hammer and trowel are already heard, and [the] scenes of ruins and ashes will soon re-

> sume the appearance of industry and enterprize, in this late mart of business. --The block of brick buildings belonging to the Union Marine Insurance Company, in Market Square [East Row], is nearly rebuilt. --A few "ten feet" buildings have been erected [on Middle Street], but we hope they are not to be multiplied (Herald:July 19, 1811).

As early as September, shopkeepers ran advertisements in the Herald stating that they had returned to their old business addresses, where they were once again ready to serve their customers. Robert Dodge returned to his store (38), at the lower end of Merchant's Row on Ferry Wharf in December, just 6 1/2 months after it was destroyed by the fire (Herald:December 13, 1811). Such advertisements continued to appear through December of the following year, by which time all three rows in Market Square were reoccupied. Although some stores were rebuilt in the North and South rows after 1812, the architecture of the square has remained essentially unchanged to the present.

How the reconstruction progressed along the eastern end of the Central Waterfront is unclear. Offin Boardman, in addition to the stores and houses on Water Street, owned six stores and warehouses (48-53) on his wharf. All are listed in the account of the fire as having burned (Herald:June 5, 1811). Amos Tappan, for several years one of Boardman's renters, was one of the sufferers (Gilman and Gilman 1811:14). By September of that year, however, Tappan advertised that he had for sale boards, shingles, joists, pine timber, barrel staves, glass, and other construction materials at his store, No. 5 Boardman's Wharf. Included in this advertisement is a reference to another store and a compting (counting room) for rent on the same wharf. Obviously, at least part of the damage done by the Great Fire had been repaired by this time. But here is a curious fact: in the probate of Offin Boardman's estate, in 1813, no mention is made of any building on his property within the Central Waterfront. The tax records for the years 1812 and 1813 fail to clarify this problem. Nor have any data been found which would suggest that the subsequent buildings erected on this site were made of brick, as stipulated in the town's building code. For thirty years, the complexion of Water Street remains vague. No mention is made in the newspaper advertisements of other businesses burned out by the fire as having returned. Neither is there any indication of new enterprises having taken their place. Unfortunately, 20th century construction on this site has probably obliterated the archaeological evidence which would have solved this problem.

The transformation of Newburyport in the early 19th century established patterns of occupation and land use around Market Square, which continue almost unchanged to the present day. The individual stores in the row buildings have survived as the minimum unit of subdivision within the town's commercial district. Their three-story height has created a multi-level working environment, encouraging a vertical segregation of business activities. The pattern enacted in the Federalist Period, of shops on the first floor and office and residences on the upper floors, has survived as the modern answer to the area's rehabilitation under the present urban renewal program.

9. IMAGES AND INDUSTRY, 1815-1900

The Federalist Image

After the War of 1812, there was no clear course set for the future of Newburyport, and the economy drifted aimlessly for nearly two and a half decades. Most of the literature of this time expresses the inhabitants' desire to recapture somehow the fondly remembered well-being of the port during the opening decade of the century. Many had the attitude that by the practice of frugality and assiduity in business, together with sheer force of will, the town might reverse the preceeding economic events. In an oration delivered in Newburyport on July 4, 1821, one speaker reasoned:

> ... our mechanics are as faithful and intelligent as they used to be, when they gained so much celebrity for the ship building and naval equipments of the river Merrimac; we can manage distilleries or fisheries with as much skill as our neighbors; we can purchase lumber cheaply and export it in as good bottoms as can any part of the commonwealth; nor will our merchants or mariners yield to those of any other seaport in uprightness, enterprise, or information. If all these things are true,--and that they are so who can deny? --there is no reason whatever why we should think our future prospects more discouraging than the rest of the maritime towns of equal size in New England (Cushing 1826:31).

But Newburyport's future lay in another direction, along a course unforseen by most of its residents. At mid-century, the Industrial Revolution stormed and then captured the town, completely remolding its economy. The captains of industry became the era's new heroes and the mills were their instruments for social reform.

So completely did the promises of industrialization engage the imagination of the population, that both the town's history and its future were now measured against the precepts of its new philosophy. Even the aftermath of the 1811 fire was seen in new perspective:

> An unfortunate, but perhaps necessary rule, was observed in the distribution of the money thus generously contributed by the country and our own citizens [after the fire of 1811]. No person received any appropriation who had property remaining of the value of five thousand dollars. This looked reasonable, and was perhaps as satisfactory a rule of procedure as could be adopted at the time. Yet looking back from our present standpoint, with all the results of that disastrous year before us, we cannot doubt that had the whole amount of money thus collected, been loaned to some half dozen of the most enterprising business men, possessing five thousand dollars or upwards, and thus adding to their capital, encouraging them to renew business and inspiring them with hope of eventually making good their losses, it would have been better for the town, and better for the poorer classes who received it, by enabling these capitalists to give them profitable and permanent employment long after the pittance supplied them was exhausted; instead, as the event proved, creating a class who just managed to live on the remnant of the property

> they had saved, but with no surplus which they dared risk in the most inviting speculations (Smith 1854:190).

For the first time, apparently, local newspapers began publishing serials featuring the personal reminiscences of older members of the community. Perhaps it was the rapid industrialization of the port, or maybe it was the sudden flood of foreign-born immigrants into the city, that sparked a need among the older residents to have their own identity and that of the town reconfirmed. As histories, the serials are as telling of the age in which they were penned as of the time which they sought to portray. Frequently, both the facts and the exaggerations contained in the original newspaper articles have reappeared in later writings, still colored by the social perceptions of the mid-19th century authors. For whatever reason the serials were originally published, they have done much to create the image of Newburyport and its past which is now preserved both in scholarly histories and fanciful fictions. However, the spirit of such places as Market Square and the Central Waterfront emanates from the people and events popularly remembered, and it is as important to understand the memories as it is to know the facts.

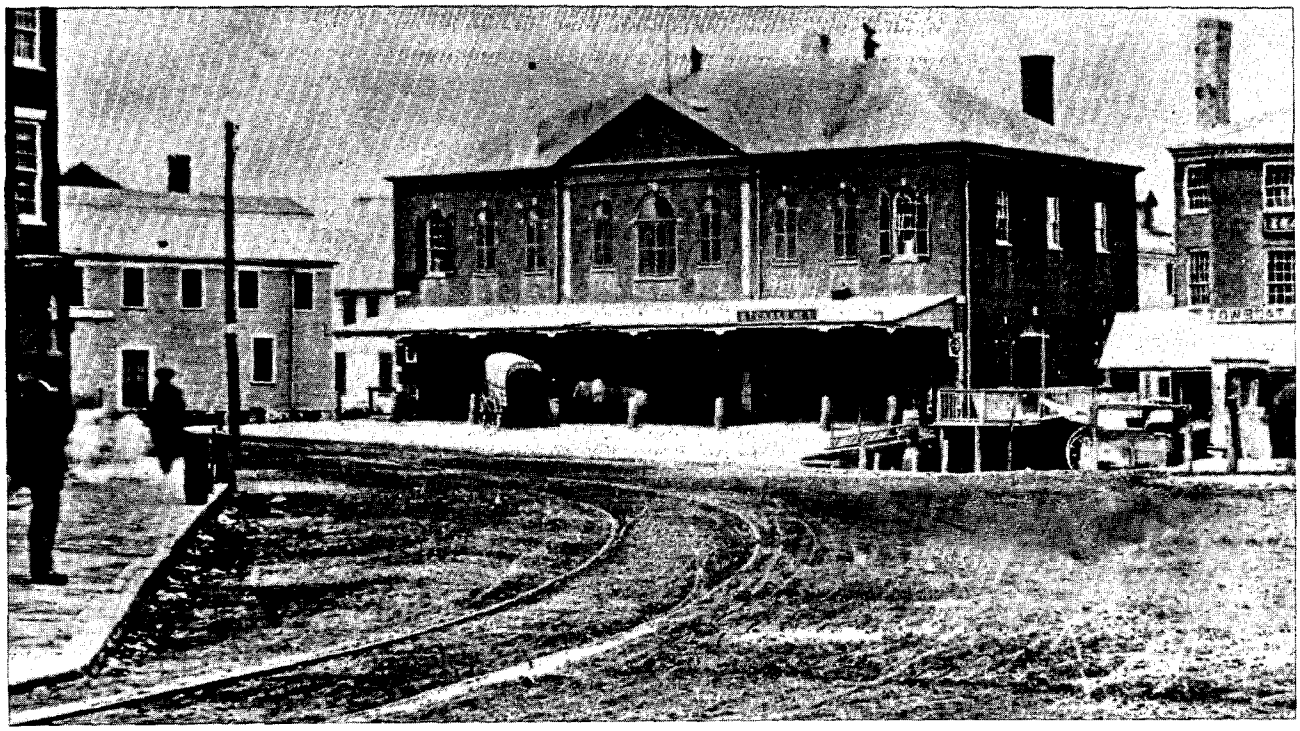
As if to emphasize the opulence of the early Federalist days by contrast, the town's mid-century historians depicted the 20 year period following the Great Fire as one of appalling economic depression. Of the characterizations written about this time, none is more vivid than the following piece published in the Memorabilia series of the Newburyport Herald in 1865:

> Years came and went--long, dull, tedious years, with many disappointments and but few hopes. Every thing grew old and rusty and dead. Nobody thought to paint a building, and there were so many of them empty that rent was nothing, and the purchase price, if any thing, was less than that. If an old fence blew down, there it lay unless it was picked up to burn; and when a pump handle broke no more water came from that well. Why, the very thoughts of those days are awful--enough to make a live man's flesh crawl, as though some horrid spectre was passing in view.... (Herald:January 22, 1856)

Contrary to the impression left by the excerpt above, Newburyport's inhabitants were not entirely disheartened. Many still saw their town as an important market place for the region. In the summer of 1822, work was begun on a two-story brick market house, and by the beginning of the following year, the first floor of the building was ready for public use. In point of architecture, the building recalls some of the most pleasing details of the former Federalist Period (Fig. 9.1).

The Market House served the same function as the butchers' shambles, whose space it replaced at the entrance to the Market Landing. On the first floor were 12 stalls, from which butchers, provisioners, and fish mongers hawked their wares. In the basement were seven "store-cellars" and a "victualling cellar" (eating place). The second floor, which was not completed until 1835, was used as a public meeting hall.

There was considerable disagreement among the townspeople over the construction of the Market House. Those opposed to the project considered it an expense beyond the means of the town treasury. Indeed, completion of the



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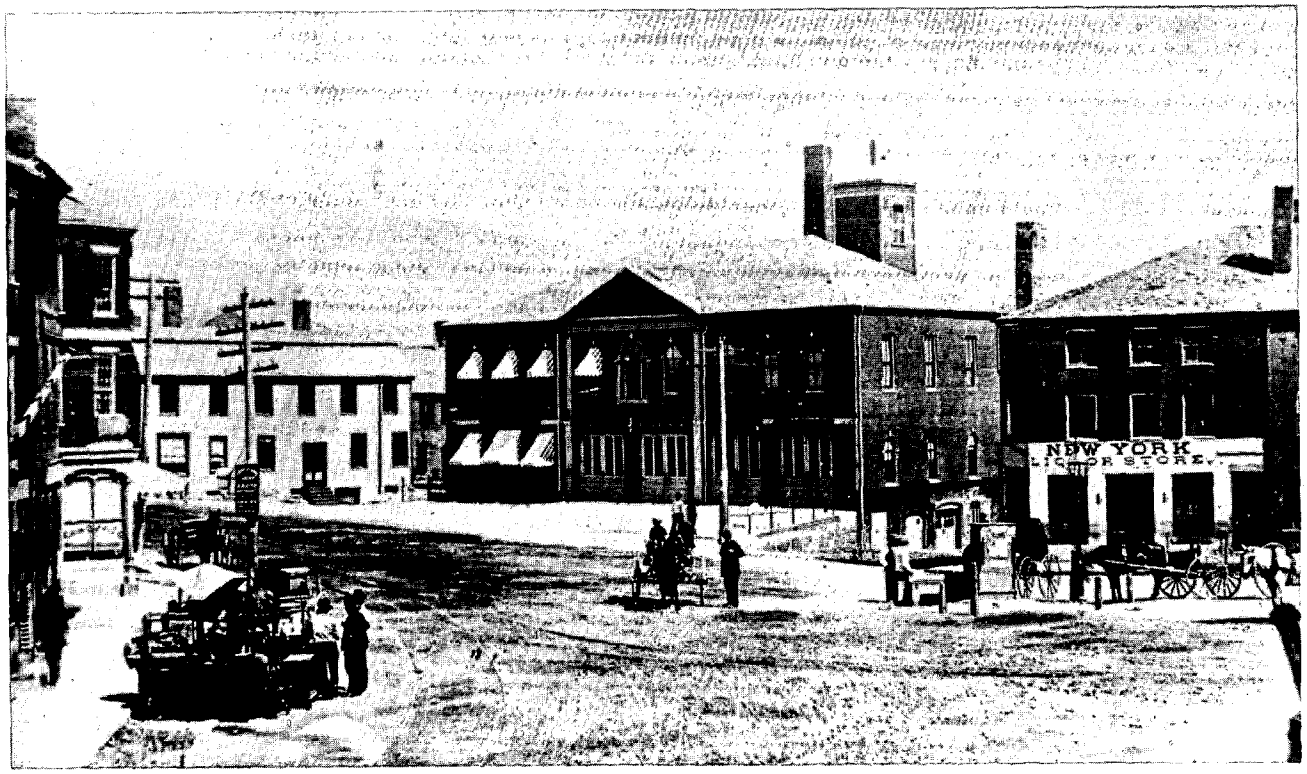

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Fig. 9.1. The Market House fire station and North Row. A, Note "TOWBOAT OFFICE" and "STEAMER NO. 1," ca. 1871. B, Fire Station and "NEW YORK LIQUOR STORE," ca. 1886. Photos courtesy of The Essex Institute, Salem, Mass.

building was held up for more than ten years, due to a shortage of funds. But even in its unfinished state, the Market House provided the town with revenue in the form of rent from the first-floor stalls (Herald:January 23, 1823; Currier 1906:187-190).

> In justice to those persons who bid so readily and liberally for the stalls, and who have fixed themselves there, we cannot but think some measure ought to be taken by the town to discourage the purchasing of meats out [-side] of the market [house], and to prevent benches for fish, beef, &c. from being placed in the open space of the market, which ought now to be left free and unobstructed for the carts and wagons of casual dealers from the neighboring country towns. --The later measure, particularly, is necessary to complete the work of improvement, which we have begun; for it is not enough to have removed the wretched shambles which formerly defaced this fine public square, unless we can clear the square of nuisances, with which it is now too frequently disfigured and obstructed... (Herald:January 23, 1823).

In April of 1823, a court resolution was passed prohibiting the sale of spirits, meat, and fish outdoors in any part of the Market Square. The Market House continued to provide Newburyporters with fresh meat and fish until 1864, when the stalls were removed to make room for the port's new steam fire engine, "Econ" (Currier 1906:190).

Later, another majestic symbol of prosperous trade was erected on Water Street. The new U.S. Custom House was built from plans drawn up by the first American trained architect, Robert Mills, in 1834-35. This Greek revival edifice, constructed of massive granite blocks, stands out in sharp contrast to the neighboring Federalist brick row buildings. Yet even this classic form seems an admission of a desire to resurrect the glory of days gone by.

Recovery and Industrialization

Newburyport's mercantile economy did begin to show signs of recovering in the 1830's. The communities along the reaches of the Merrimack River had begun to expand under the effects of industry, and many of them still looked to Newburyport merchants for essential commodities.

> ... We have now [1832] afloat 22 ships and 2 barques, (8,596 tons), 18 brigs, (3,870 tons), all, with three or four exceptions, of the first class, and 3,432 tons of registered schooners; making an aggregate of 15,898 tons of registered shipping. --Add to this 2,438 tons of temporary and 10,000 tons of enrolled, and it shows an amount owned here at the present time, of 28,336 tons. Within the last three years, at least 50 percent has been added to our tonnage in large vessels, and during the last year we have added 8 ships, 1 barque, and 5 brigs. In addition to this, there are now building on our river, and owned here, 4 ships and 3 barques, which will increase the amount of tonnage 2,500, and which added to the above will show an aggregate of 30,830... (Herald:December 4, 1832).

New, mechanized, handicraft industries had also been initiated in the previous few years, and were becoming an increasingly larger source of employment for the townspeople. Following an article surveying the town's new undertakings, a newspaper editor remarked:

> Ten years ago had a stranger enquired of our manufacturies, we could only have pointed to some half dozen Distilleries of N.E. Rum--these are now languishing for want of support, the more useful and ornamental ones [new industries]...have successively sprung up, and are in vigorous operation (Herald: February 26, 1830).

The new industries referred to manufacture of chairs, hosiery, combs, cigars, and silver thimbles. Much of this work was performed by hand, the labor supplied principally by women and children. But employment opportunities for the adult male population were still limited.

With no natural source of power, Newburyport's industries remained a relatively small part of the port's economy for the next decade. It was not until steam-powered industry was perfected that large-scale manufacturing in the town was possible. The first such manufactory was the Newburyport Steam Cotton Company, incorporated in 1835. But because of technical difficulties, the mill was not profitable and was sold eight years later. The factory building was purchased in 1844 and renamed the Essex Steam Mills. It continued to manufacture cotton cloth until 1856, when it was destroyed by fire (Currier 1909:158-159).

> Several years after the erection of [what became] the Essex Mill, a new man appeared among us--a well-formed, noble looking person--such a man as you do not often meet, full of power, energy and enterprise, who had studied machinery till he was himself one of the most powerful machines--who had been among steam engines till he was a perfect steam engine himself, thinking nothing of what to others seemed mountains of difficulties, and having an influence over the opinions and purses of our staid old capitalists that no other man had possessed for a long time. He could wake up some that had been sleeping since the days of the Great Fire; he could talk his projects into them; he could set them to work, and make them do something. Such a man was Charles Tillinghast James, who being born about 1807, was but little over thirty years old, when he commenced the Bartlet Mills, and but six years older when the James' was built that bears his name; but already he had won for himself a high place among the mechanics of New England, and no one ought to be surprised that he who at thirty, in the then condition of affairs, could induce Newburyport to build the Bartlet Mills, should be in the United States Senate when he was forty-five, though politics was somewhat out of his line of business... (Herald:January 22, 1856).

Following the construction of the Bartlet Steam Mills in 1836 and their successful operation for six years, three other cotton mills were established in rapid succession: the James Steam Mills in 1842, the Globe Steam Mill in 1845, and the Ocean Steam Mill in 1845 (Smith 1854:285-287). Unlike many inland industrial centers such as Paterson, New Jersey, and Lowell, Massachusetts,

Newburyport's industries did not cluster around a particular central location within the town. This would have caused considerable unnecessary congestion within the port, resulting from transporting coal and raw materials from the wharves to the mills. Instead, Newburyport's industrialists chose to distribute their mills more or less evenly along the length of the town, within a few blocks of waterfront facilities. Only the Bartlet Mills were located in the downtown area, near Market Square. At mid-century, these cotton mills constituted the largest single source of employment in the newly incorporated City of Newburyport, giving work to 1320 people (State Census 1855).

Employment opportunities were also expanding in boot and shoe making, silversmithing, comb making, and hat making (NCD 1851-1901). These growing industries now offered significant employment for adult males as well as women and children. The absolute and relative growth of manufacturing, based on the male employed heads of households mentioned in the City Directories, is shown in Fig. 9.2 in comparison with other segments of the economy. While the cotton mills reached their peak levels of employment during the Civil War, the second largest industry, boot and shoe making, continued to grow until the close of the century.

Rebirth of Shipbuilding

The shipbuilding industry languished for some 60 years following the American Revolution, but in the 1840's it suddenly revived. The rapid expansion of the local textile industry, with its need for fuel and raw materials, encouraged the construction of more and larger vessels (Fig. 9.3). Shipbuilding gained further impetus from the discovery of gold in California, as easterners caught the gold rush fever and ships were sought to transport people and supplies to the West Coast. It continued as one of the city's principal industries through the 1870's, but it suffered severely from a series of recessions. Perhaps because of this, Merrimack shipbuilders found it increasingly more difficult to obtain financial backing. The aggregate tonnage and total number of vessels constructed in Newbury and Newburyport shipyards fluctuated radically in the period between 1850 and 1900, but the overall trend was downward. In 1901, the last Newburyport-built schooner, the Adelaide Barbour, was launched, marking the end of one of the port's earliest industries (Cheney 1964:162).

"At the height of the sailing ship era," states Robert Cheney, "more ships of greater tonnage were built in a smaller space at the North End of Newburyport than at any other seaport on the Atlantic Coast" (1964:3). Fifteen vessels, with a combined capacity of nearly 13,000 tons, were launched from the port's shipyards in 1855. Shipbuilding alone employed 540 persons that year, ranking it behind textile and shoe manufacture as the city's third largest industry (State Census 1855). Fitting out and rigging the vessels employed at least another 100 craftsmen.

Once the hull of a sailing vessel was completed at one of the shipyards upriver, it was launched and then towed to a rigger's wharf to be fitted out. Here the talents of numerous maritime artisans were combined in preparing a vessel for its maiden voyage. Two wharves frequently used for this purpose were Hale's Wharf (i.e., City Wharf) and Ferry Wharf (Fig. 9.4).

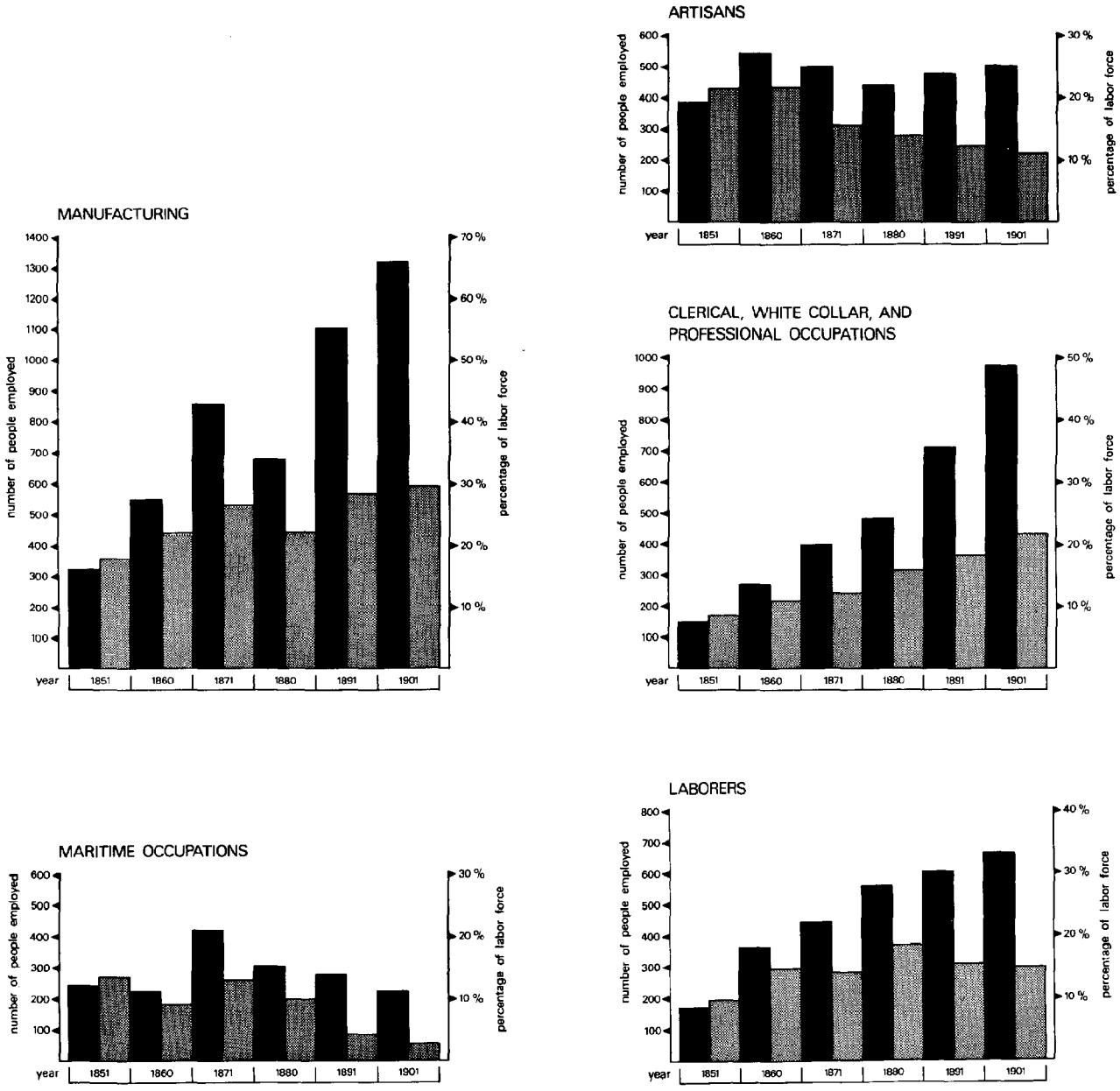


Fig. 9.2. Employment of Newburyport's adult males, 1851-1901. Solid bar indicates the absolute number of people employed in a particular area of the economy, while the shaded bar shows that figure as a percentage of the labor force. Because these figures were compiled from the Newburyport City Directories, the people represented were primarily adult male heads of households; the considerable female and child labor forces were generally ignored by these data.

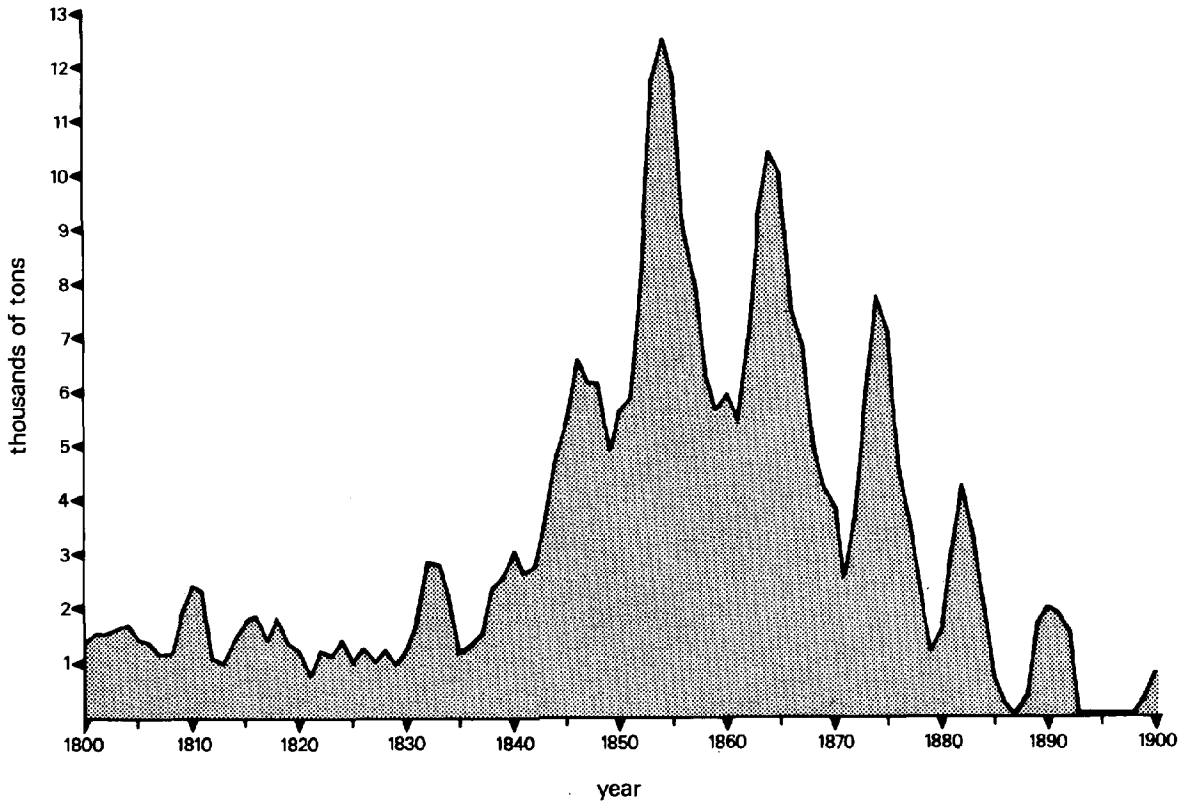
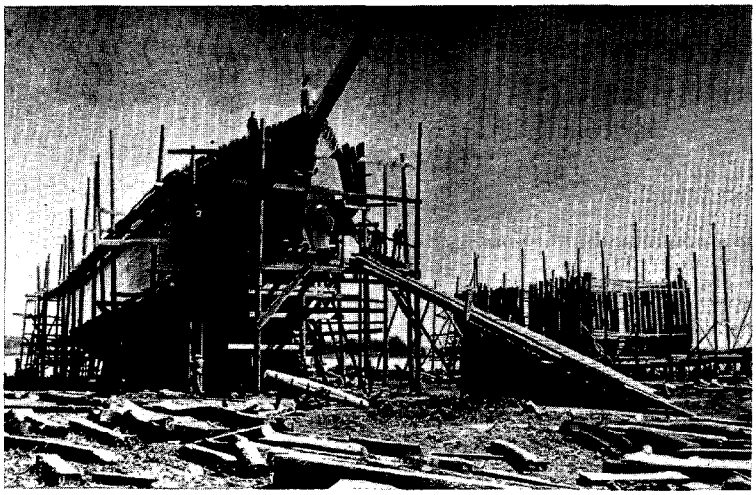


Fig. 9.3. Annual tonnage of vessels built in Newbury and Newburyport during the 19th century. Figures were computed on a three year running average of data compiled by Cheney (1964). Periods of growth in shipbuilding during the 19th century may be attributed to the discovery of gold in California in 1848, the renewal of international trade in the 1850's, and the Civil War. Recognizable declines include the War of 1812, and the panics of 1837, 1857, and 1893.



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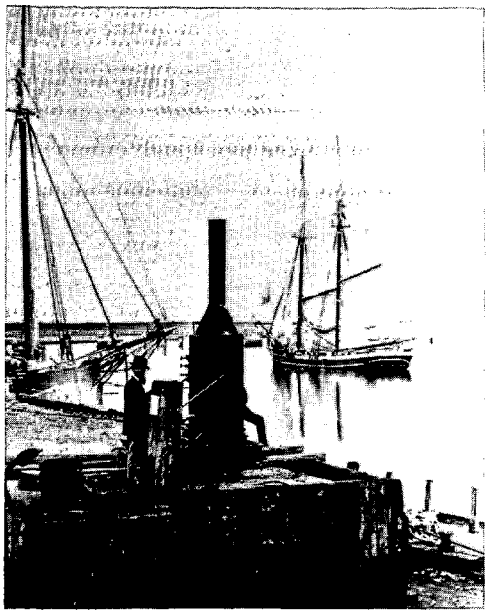

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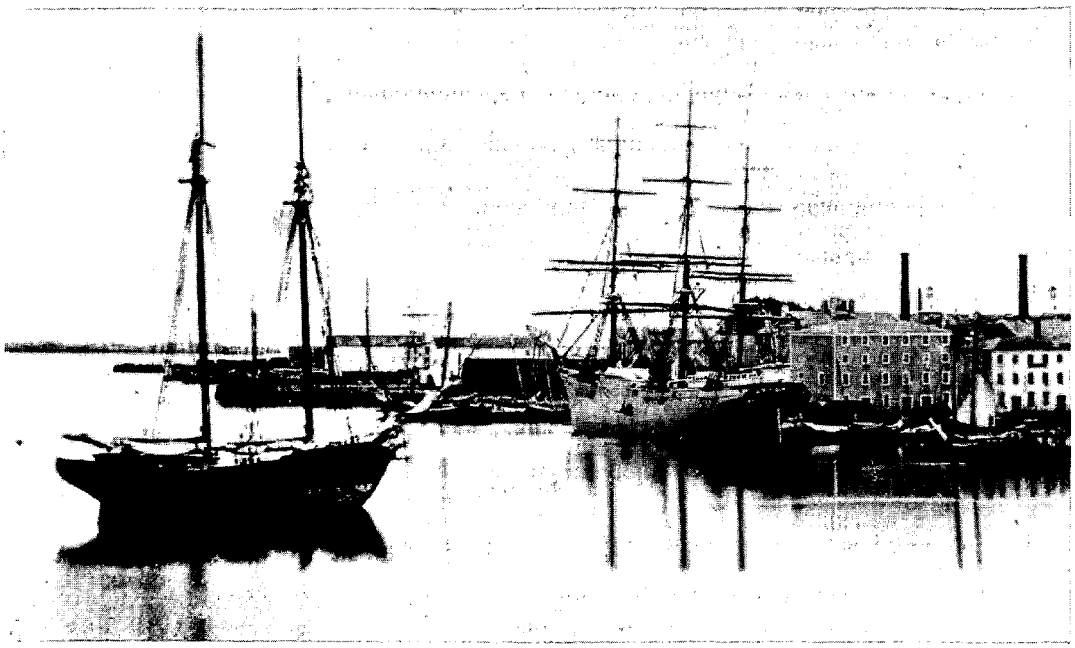

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Fig. 9.4. Shipbuilding at Newburyport. A, Newburyport shipyard, ca. 1873. B, Donkey steam engine, of a type manufactured by W. Everett Pearson in Newburyport and used to help rig and load ships; photographed at or near City Wharf, ca. 1873. C, Ship Winged Hunter being rigged at City Wharf, 1864. Photos courtesy of the Newburyport Public Library.

The Central Waterfront and Market Square at Mid-Century

It is not surprising to find that in the 1850's many craftsmen and businesses in trades allied to shipbuilding still occupied the buildings on and near the Central Waterfront (Fig. 9.5). Tallack Brombeck was a rigger for over 40 years, most of which time he could be found working in a loft in Merchant's Row (22). As a rigger, Brombeck was responsible for equipping sailing vessels with masts, yards, sails, and running rigging. In 1855, two of the four sail lofts in town were also located within the Central Waterfront. George Hale worked at 10 Hale's Wharf (18), and Benjamin Davis' loft was in Merchant's Row at 4 Ferry Wharf (20). Benjamin Davis was, of course, another in the line of Davis sail makers whose refuse was excavated in Area 4. In all, the four sail lofts in Newburyport in 1855 employed 28 people (State Census 1855).

Other maritime artisans within the Central Waterfront were ship painters, a blacksmith, a boat builder, a pump and block maker, a caulker and graver, a hermetical sealer (Town Directory 1851). Ship chandlers and hardware merchants, as well as sheet metal workers and coppersmiths, clustered around the East Row of Market Square, near the intersection of Water Street and Elbow Lane (Cheney 1964:302). Spar and mast makers, in addition to many pump and block makers and boat builders, were situated on Water Street. Shipsmiths, machinists, and foundrymen generally established their businesses just up the river on Merrimac Street. An exception was William Gunnison, who built the mansard-roof brick structure which stands to the west of the Custom House today. Part of Gunnison's business (14) was used in 1850 as a blacksmith shop, where he may have made fastenings and fittings to supply to shipbuilders and riggers. W. Everett Pearson located his machine shop here in 1873, and in that year built the first "donkey" or stationary steam engine to be installed on a Newburyport built ship (Fig. 9.4B). He also built many of the engines and boilers for the steam powered ships made locally (Cheney 1964:294,339).

Although Newburyport was no longer one of New England's celebrated international ports, it retained some of its former importance as a center for local commerce. The appearance and activities of the town's central business district at mid-century had changed little since 1810. Businessmen chose to locate here for substantially the same reasons as their predecessors. The merchants on the waterfront and most of the shopkeepers on Market Square and State Street depended upon outside supplies and markets for their merchandise. At this time, most of the town's goods still travelled by water. It was to the tradesman's advantage, therefore, to keep the distance between ship and store to a minimum. Those who traded in heavy or bulky goods and incurred the highest freight costs within the city, gained most by locating on or near the wharves. Although the number of maritime artisans on the waterfront had increased somewhat, the wharves' principal occupants were still merchants, and the commodities to be found in their warehouses were still primarily groceries, produce, fish, flour, and grain, as well as hardware and building materials.

The north side of Market Square remained the focus of the town's food industry. Nearly all of the port's butchers and fish mongers were located in and near the Market House. A leisurely walk along Water Street to the Custom House, would have taken you past nine stores wholesaling and retailing fruit, produce, groceries, West India goods, and flour and grain. Others whose doors you would have passed were a blacksmith, two ship painters, a clothing dealer,

Fig. 9.5. Central Waterfront, 1850 -- Key

	Address	Building	Owner	Function/(Occupant)
	Market Square			
1	#4	brick store	Benaiah Titcomb	wholesale grocer (R. S. Curtis)
	#5	(2nd floor)		notary public (J. Cook)
2	#6	brick store	Joseph Plummer	West India goods
	#7	(2nd floor)		fruit & produce (Isaac C. Clement)
3	#8	brick store	estate of William Russell	tin plate worker (Charles Chamberlin)
4	#9	brick store	Mrs. Elizabeth Cushing	groceries & ship stores (Knight & Lunt)
5	#10	brick store	Mary Johnson	groceries (J. B. Goodwin)
6	#11	brick store	heirs of John Davenport	ship chandlery (Wm. T. Wills)
	#12	(2nd floor)		ship & house painters (Wm. & Jos. Creasey)
7	#13	brick store	heirs of A. & M. Davenport	wholesale groceries (Joseph Goodhue)
	Water Street			
8	#1	brick store	Elizabeth Stickney	flour & grain (Sumner & Swasey)
9	#3	brick store	Eleazer Johnson	flour & grain (Sumner & Swasey)
10	#5	brick store	Jenness Brown	wholesale West India goods
	#7	(2nd floor)		residence
11	#11	store	heirs of Abraham Perkins	clothing (Foster Smith)
	#9	(2nd floor)		boarding rooms
12	#13	store	George T. Granger	lumber yard
13	#15	shop	William Gunnison	blacksmiths (Wm. Gunnison & John Page)
14	#17	store	William Gunnison	flour, grain, meal
15	#19	store	William Gunnison	flour, grain, meal
16	#21	store	William Gunnison	flour, grain, meal
	Hale's Wharf			
17	#7	store	Ednah & Parker Roberts	junk & iron (A. H. Coleman)
18	#10	store	David & Isaac Hale?	sail loft (George Hale)
	Ferry Wharf			
19	#1	store	heirs of Robert Dodge	coal (Newman Brown)
20	#3	store	Abraham Wheelwright	hermetical sealer--canner (Abner Caldwell)
	#4	(1oft)		sail loft (Benj. Davis & son)
21	#5	store	William & Samuel Nichols	merchants
22	#7	store	Micajah Lunt	flour & grain (J. J. Knapp)
		(1oft)		rigging (Tallack Brombeck)
23	#8	store	Micajah Lunt	merchant

Note: Dotted lines indicate approximate size and location of known structures.

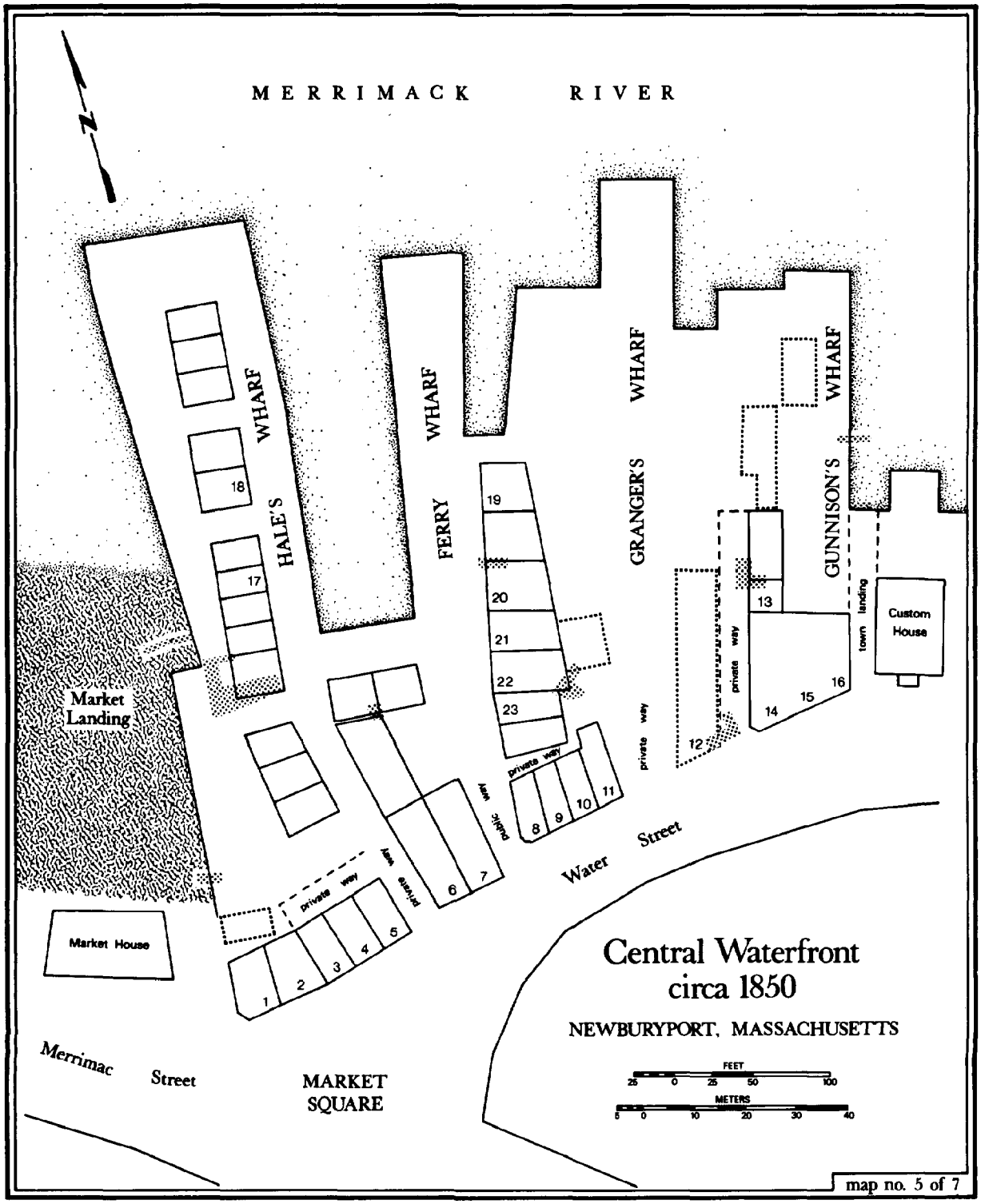


Fig. 9.5. The Central Waterfront at mid-19th century.

and a dealer in hardware and ship chandlery. The few changes which had taken place in the appearance of the neighborhood were largely confined to the buildings' ground floor facades. In the 1840's, many of the store owners on State Street and Market Square remodeled their storefronts, replacing the narrow, brick-arched windows and doors with large showcase windows framed with granite piers and lintels. Other stores were not altered until the 1860's, at which time cast iron pilasters were installed (Figs. 9.6 and 9.11).

The only major change occurred in the eastern half of the Central Waterfront. Just east of Ferry Wharf, on property once covered by Offin Boardman's stores, residences and housefront shops, George Granger owned a large lumber yard. Except perhaps for some outbuildings and an office (12), the area was now used for open storage. In 1854, Granger sold the property to Newman Brown who dealt in cordwood and coal (ECRD 490:194). The site continued to be used for coal storage through the first years of the 20th century.

Tenants and Tenements

With the coming of the cotton mills, Newburyport's population increased dramatically, experiencing its most rapid growth between 1840 and 1850. Nearly 600 houses were constructed to accommodate the newcomers (Thernstrom 1964:10-11). By 1850, 1362 of the town's 9572 inhabitants were of foreign birth, the majority of whom came from Ireland. Other immigrants arrived from farms in Vermont, New Hampshire, Maine, and the Canadian Maritimes. As a group, the newcomers could be characterized as unskilled, poor, illiterate or semi-literate, and highly mobile. Euphemia Smith was correct when she described the influx of people at mid-century as "... a large floating population" (1854:228). Slightly less than 40 percent of all the unskilled workers listed in the 1850 census could be found in the city a decade later, and the same was true for the next three successive decades (Thernstrom 1964:85).

In 1850, there was a clear pattern of residential segregation by social class within the town. The highest concentration of laborers and their families lived in shacks and boarding houses on Merrimac and Water streets. Others found similar accommodations on Salem, Ship, Federal, Independent, and Winter streets, near the mills. Some lived above stores or in houses on back lots in the central business district (Thernstrom 1964:30). Because of their association with the immigrant population, these and other places within the city were taking on new, and decidedly derogatory images; "bad neighborhoods" were now part of the city's landscape.

Within the Central Waterfront, only two residences are listed in the Town Directory of 1851: 7 and 9 Water Street (Table 9.1). Both of these addresses refer to the second floor of the Ferry Wharf Building described earlier. The first address was that of Jenness Brown, a grocer of modest means, who lived with his wife and daughter in an apartment above his store (10). In 1850, he bought the portion of the building in which he lived and worked, and remained there until about 1875. Brown prospered at this Water Street address, multiplying his net worth 12-fold between 1850 and 1870.

By contrast, Brown's neighbors, John Weeks and his family of five, did not fare very well. He was a laborer from New Hampshire, and his two sons, Frank and Joseph, were sailors. The 1850 census indicates that the family had

Table 9.1. Persons Residing on the Central Waterfront, Derived from the City Directories, Newburyport.

1851 Name	Occupation	Business	Residence
Brown, Jenness	Grocer	5 Water	h. 7 Water
Weeks, John	Laborer		h. 9 Water
Weeks, Frederick	Seaman		b. 9 Water

1860 Name	Occupation	Business	Residence
Brown, Jenness	Grocer	5 Water	h. 7 Water
Callaher, Mathews	Laborer		b. 9 Water
Cavanagh, Mrs. Moses			h. rear 11 Water
Crowley, Cornelius	Combmaker		b. 9 Water
Dooley, John	Fisherman		h. rear 11 Water
Fitzpatrick, Franklin	Mariner		b. rear 11 Water
Minahan, Cornelius	"Globe Mill"		b. 9 Water
Minahan, Michael	"Bartlet Mills"		b. 9 Water
Phillips, James	Mariner		h. rear 11 Water
Reardon, John	"Globe Mill"		h. 9 Water
Romiley, Peter (colored)	Restaurant	1 Water	h. d'o
Waters, Francis	Umbrella Maker	11 Water	h. d'o

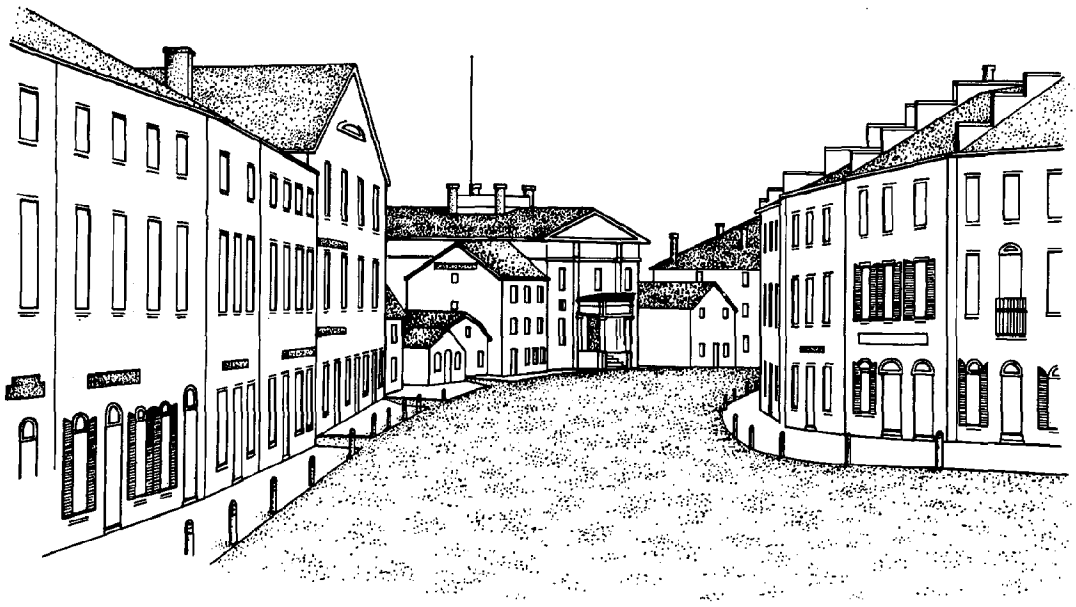
1871 Name	Occupation	Business	Residence
Blodgett, Seth	Laborer		b. 11 Water
Brown, Jenness	Grocer	5 Water	h. 7 d'o
Durham, Edward W.	Mariner		b. 9 Water
Graves, John	Harnessmaker		h. 9 Water
Phillips, James	Mariner		h. rear 11 Water
Reardon, Ellen	Widow		h. rear 11 Water
Ryan, James	Mariner		h. rear 11 Water
Tobin, Michael	Mariner		h. rear 11 Water

1880 Name	Occupation	Business	Residence
Anderson, John H.	Cook	1 Water	b. 1 d'o
Ayer, W. Perley	Prop., Chester Ho.	1 Water	h. 1 d'o
Bartlett, Andrew J.	Clerk	1 Water	b. 1 d'o
Donahoe, Martin	Saloon	11 Water	h. 11 d'o
Farmer, Felix	Combmaker		b. 7 Water
Knox, Christopher	Laborer		h. rear 11 Water

Table 9.1., continued.

1891 Name	Occupation	Business	Residence
Dieustfreund, Adolph	Tailor		h. 11 Water
Doherty, John	Laborer		h. rear 11 Water
Donahoe, Martin	Saloon	11 Water	h. d'o
Duffy, John	Clerk	35 Pleasant	h. 5 Water
Gray, George C.	Restaurant	9 Mkt. Sq.	h. d'o
Lewis, Robert E.			h. 1 Water
Meinarth, Carl	Music Teacher	12 Mkt. Sq.	h. d'o

1901 Name	Occupation	Business	Residence
Doherty, John	Laborer		h. 11 Water
Donahoe, Martin	Hatter		h. 11 Water
Greenberg, Charles	Junk Dealer		h. 11 Water
Reiman, Marks	Laborer		b. 11 Water
Robinson, Samuel	Laborer		b. 11 Water
Saltinsky, Morris	Junk Dealer	3 Ferry Wf.	h. 11 Water
Tarlo, David	Laborer		b. 11 Water



A

B

Fig. 9.6. Water Street and Market Square in 1840 and 1977. A, Scene traced from engraving on a one dollar note of the Newburyport Bank, dated October, 1840. B, Identical view, October, 1977. Note replacement of early structures with the mansard-roofed Gunnison Building.

no appreciable property. Apparently they remained in the study area only for a short time. Other families like the Weeks probably resided in this neighborhood in 1851, but they do not appear in the directory.

In 1860, Peter Romily, a black man from Havana, Cuba, opened a restaurant at No. 1 Water Street, also in the Ferry Wharf Building, where he lived with his wife and young son. Like Brown, he too thrived, quintupling his property in just ten years. In 1874, Romily purchased the section of the building in which he worked and remained there until 1875, when he moved to a restaurant on Liberty Street.

Two tenements appear on the Central Waterfront in 1858: one at 9 Water Street and the other at the rear of 11 Water Street. The latter structure was the boardinghouse excavated in Area 4 and reported in Chapter 4. Probably crowded, these addresses were occupied primarily by families of working-class immigrants. Few families stayed for more than one or two years, their vacated rooms being quickly reoccupied by other immigrants. But just as newspaper serials were bent on reestablishing the identity of Yankee Newburyport, the census takers were equally set in down playing the presence of those they considered to be outsiders. As these two tenements were often overlooked in censuses, it has been impossible to reconstruct a demographic profile of their occupants. A few general remarks are, however, possible. Based upon surnames and a meager amount of census data, it appears that the original tenants consisted of a mixture of Irish and Newfoundlanders. Beginning in the 1880's, however, a number of eastern European names appear among the lists of residents. The arrival of these later inhabitants coincides with the massive wave of Jewish emigration from the Russian and Austro-Hungarian empires in the late 19th century (Ward 1975:53).

Railways, Coal Pockets and New Business

> ... In 1840 railroad connection with Boston was completed, and not only infused new spirit into the people, but afforded ready opportunities for its exercise. Inland commerce by rail has taken the place of commerce by the sea and is ten-fold larger. It can only be said that new industries have taken the place of old, and with a full adjustment of the people and business to new conditions; it will be found that the depression which attended the transition has gone forever. The stage driver mourns over the old days on the box, but he is made station agent or conductor, and settles down to his new vocation, happier and better paid than before. The shipmaster groans over the departed glories of the sea, and while he groans, he is remembered by the capitalist whose ship he sailed, and called to better and more satisfying posts. The lumper on the wharves, kicks the cap log with his heels, believing the country is doomed to destruction because his accustomed work has failed, but the factory, the gas-house, the freight station or horse railroad wins him at last into better opportunities of developing himself, of educating his children, of giving him a happier home (Hurd 1889: 1775).

The coming of the railroad to Boston's North Shore in the 1840's initiated a series of profound and permanent changes in the region's marketing systems.

Freight charges for overland transportation dropped with each improvement in railroad technology, and store owners in the small villages through which the trains passed became ever more willing to trade directly with the merchants of Boston. Before long, it was no longer necessary for rural shopkeepers to travel by wagon to Newburyport to purchase the items with which to stock their shelves. The train could deliver the necessary commodities directly to the nearest depot. In effect, the construction of the railroad destroyed one market syetem which centered around Newburyport and replaced it with another which grew up along the railroad routes. But the old marketing system was not suddenly abandoned--it was gradually altered, following the rate of technical innovation and elaboration of the railway system. Because it was not as economical to transport overland, most coal burned in the nation's industrial centers was carried by water until the close of the 19th century. Coal was one of the last commodities in Newburyport to depend upon waterfront facilities for its primary distribution.

As was seen in Chapter 3, nothing so completely altered the face of the waterfront as the construction of the Newburyport City Railroad. Built in 1872, for the purpose of transporting coal and freight, the City Railroad served as the link connecting the waterfront with the main line of the Eastern Railroad system. For maximum accessibility to incoming vessels, the railroad was laid out along the ends of the wharves, and ran parallel to Water Street (Fig. 9.7). Terminal facilities were constructed north of the old Market House, now the Fire Station, within the former Market Landing (Fig. 9.8). Believing the rail link would stimulate the port's commerce, the city relinquished its claims to the public landing places and ways over which the tracks passed. The slips, now rendered useless, were filled in (Currier 1906:365; Huse 1873).

Soon after the railroad was put into operation, the Philadelphia and Reading Coal and Iron Company erected a coal pocket, for storing and distributing coal, at the end of Granger's Wharf. When completed in 1876, the coal pocket stood over five stories high, and towered over every other building on the waterfront (Fig. 9.8). Iron colliers, such as the "Leopard," "Panther," "Hercules," and "Rattlesnake," commenced regular service carrying coal from Philadelphia to Newburyport (Currier 1909:78). The iron colliers were replaced in the 1880's with barges towed by steamers. As the volume of coal brought into the port increased, more coal pockets were erected on adjoining parcels of wharfage (Fig. 9.9).

With the completion of the railroad, the filling in of the abandoned slips, and the construction of the coal pockets, Market Square's direct connection with the river was severed (Fig. 9.10). The break was more important than a matter of proximity; it had a serious lasting effect upon the tradesmen who occupied the area. Nearly all of the older businesses either disappeared or underwent revision between 1871 and 1880. With one exception, Samuel March's "Cheap Cash" grocery store, retail and wholesale food exchanges were gone by 1880, replaced by hardware and junk stores, soap manufactures, furniture dealers, saloons, and liquor stores (Fig. 9.11). Whereas the previous businesses were well integrated into the city's economy and physical structure, those which replaced them had to go through a period of readjustment. It is therefore not surprising to find that the length of tenure of new establishments was relatively short in the years immediately following the construction of the railroad. To accommodate some new ventures, additional buildings were erected within the Central Waterfront, particularly along the newly created Railroad Avenue (Fig. 9.10B).

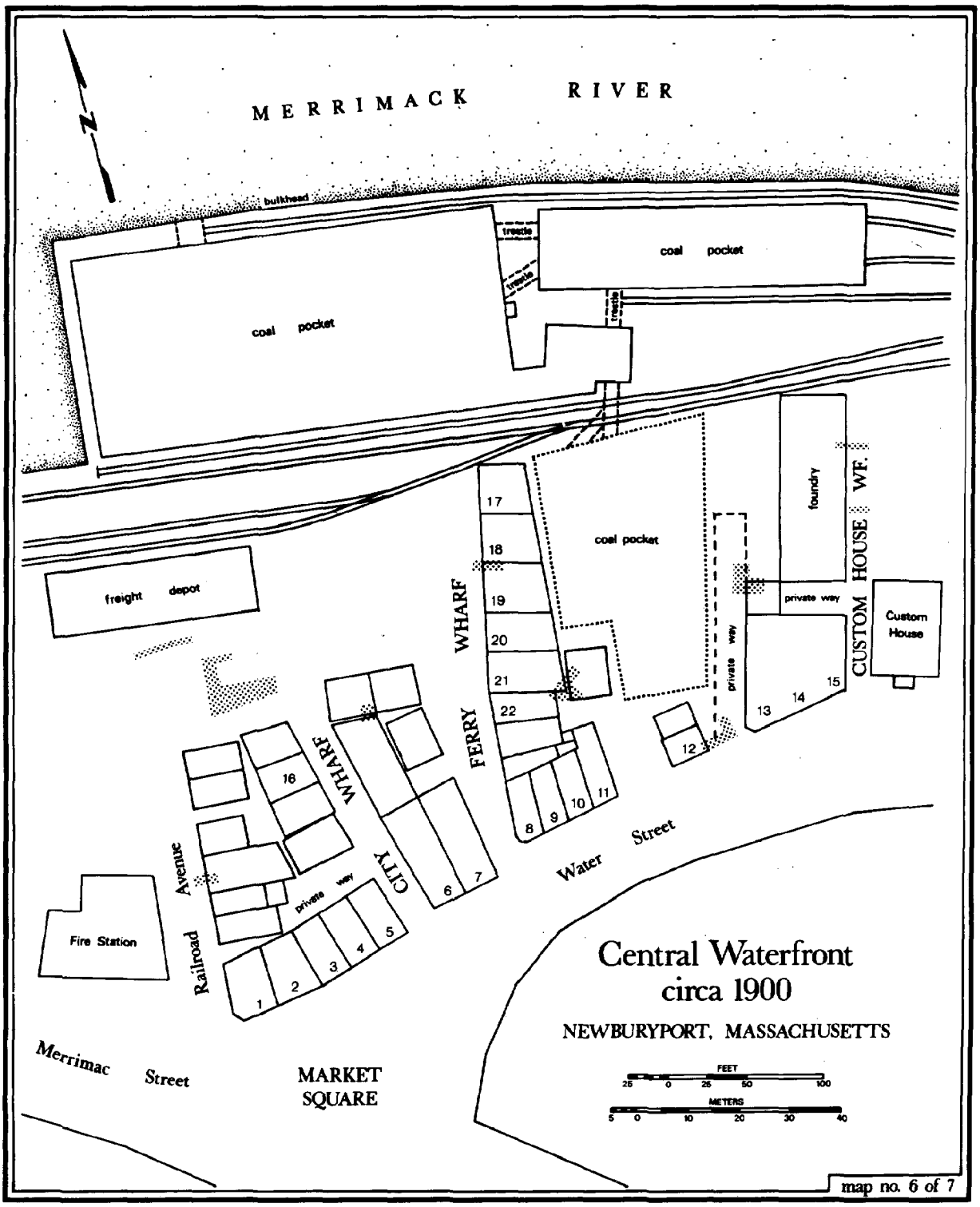
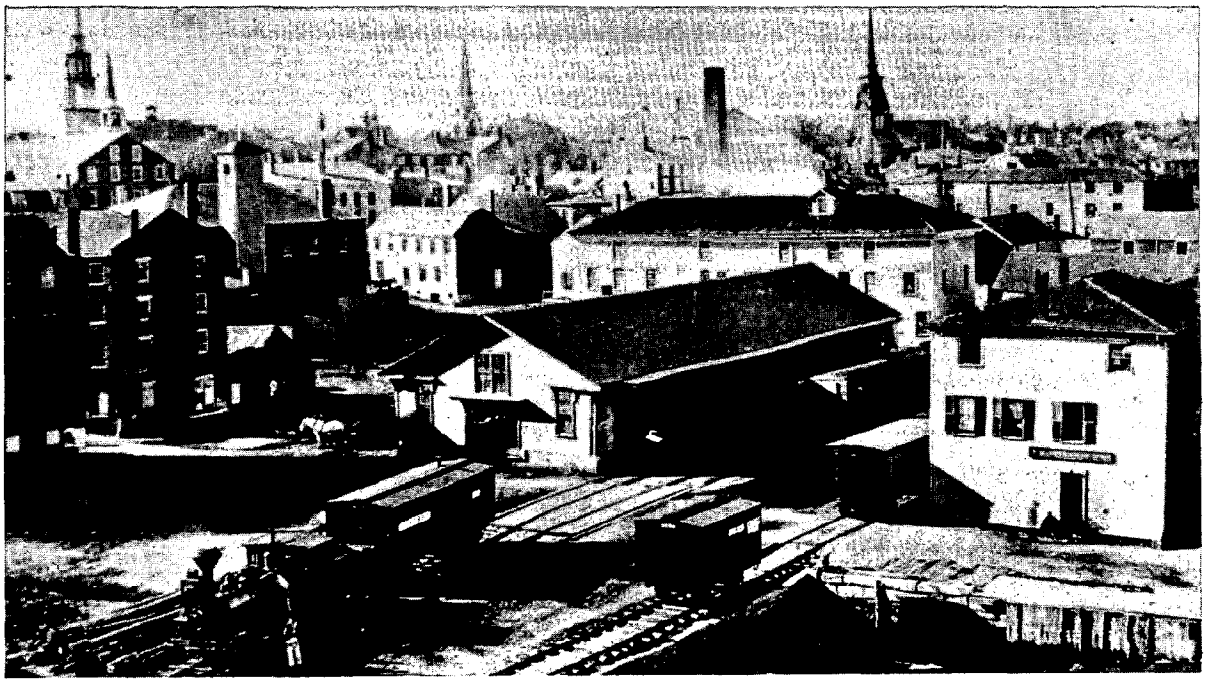


Fig. 9.7. The Central Waterfront, transfigured by railroad and coal pocket construction, ca. 1900.

Fig. 9.7. Central Waterfront, 1900 -- Key

	Address	Building	Occupant	Function
	Market Square			
1	#4	brick store	George Kent	locksmith
	#5	(2nd floor)	Robert J. McKinney	undertaker
2	#6	brick store	Langley Furniture Co.	furniture
	#7	(2nd floor)	William Holker	hardware
3	#8	brick store	William Holker	hardware
4	#9	brick store	William Holker	hardware
5	#10	brick store	William Holker	hardware
6	#11	brick store	Toppam & Wilson	hardware
7	#13	brick store	James Brown	grocer
	Water Street			
8	#1	brick store	?	
9	#3	brick store	?	
10	#5	brick store	John Duffy	liquor
	#7	(2nd floor)		residence
11	#11	house	?	boarding house
12	#13	brick store	Philadelphia & Reading Coal & Iron Co.	coal office
13	#15	brick store	William Holker	hardware
14	#17	brick store	Abram Seam & Co.	junk
15	#19	brick store	William Holker	hardware
	City Wharf			
16	#3	brick store	Merrimack Specialty Co.	novelties
		(2nd floor)	Ebenezer Rolfe	cabinetmakers
	Ferry Wharf			
17	#1	brick store	Eli Levine	junk
18	#2	brick store	Eli Levine	junk
19	#3	brick store	Morris Saltinsky	junk
	#4	(loft)	William A. Davis & Son	sailmakers
20	#5	brick store	George Roaf	wholesale provisions
21	#6	brick store	George Roaf	wholesale provisions
22	#7	brick store	Eagle Chemical Co.	

Note: Dotted lines indicate approximate size and location of known structures.



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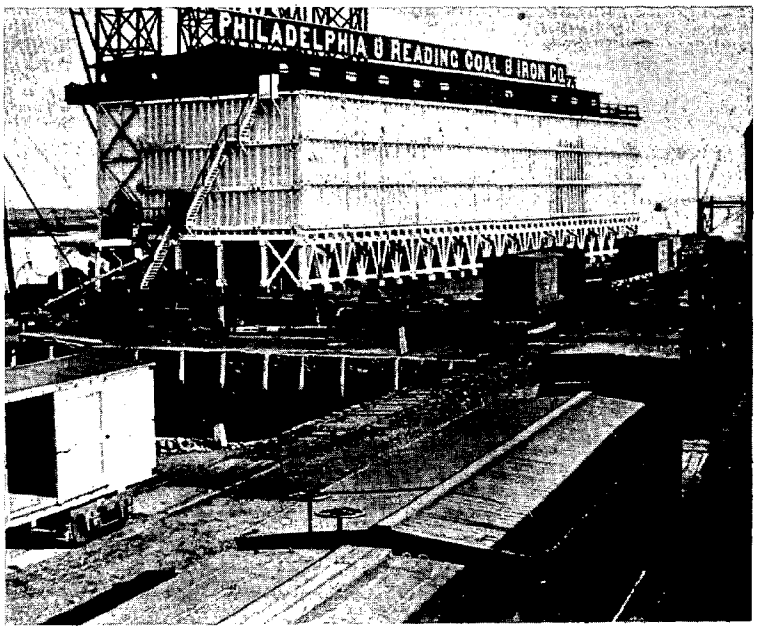
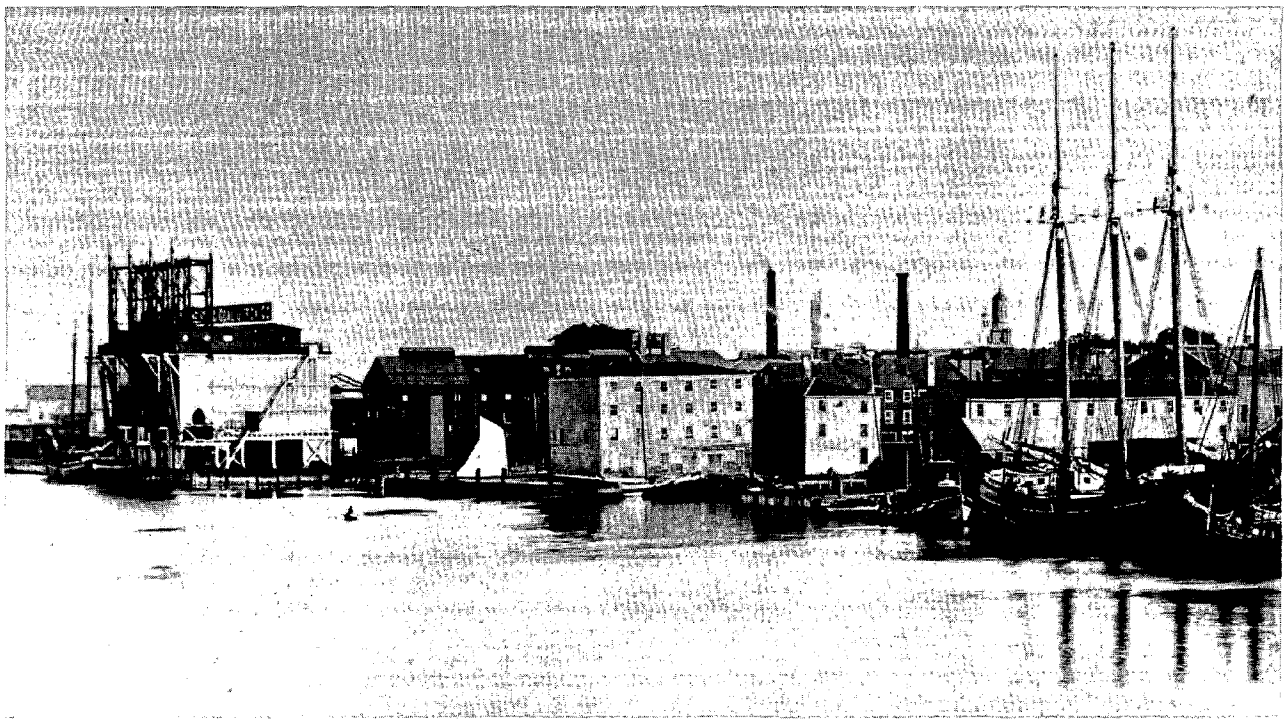


C

Fig. 9.8. Railroad and coal pocket. A, View to the southwest from the Philadelphia and Reading Coal and Iron Company coal pocket, showing a freight depot on the site of the former Market Slip, ca. 1875; note rear of Fire Station, left center. B, Philadelphia and Reading Coal and Iron Company workers, ca. 1913. C, Philadelphia and Reading Coal and Iron Company pocket, ca. 1875; note overhead trestle not yet completed. Photos A and C courtesy of The Essex Institute, Salem, Mass.; Photo B courtesy of the Jacoby family.



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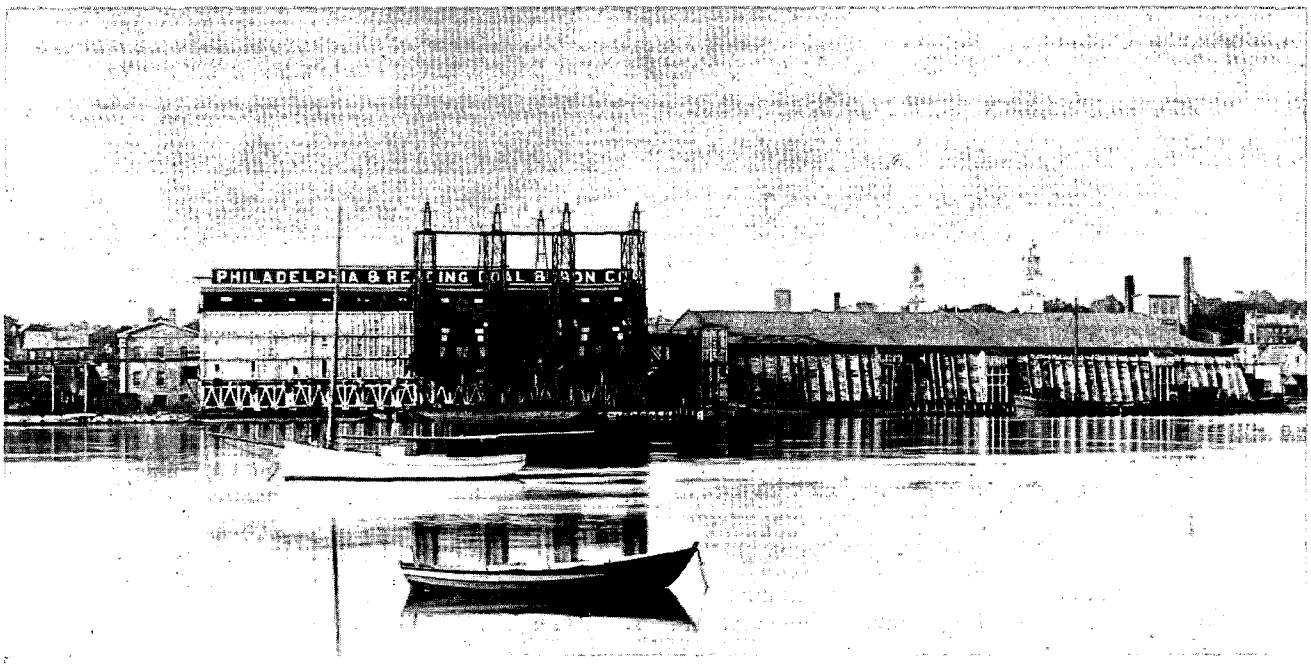
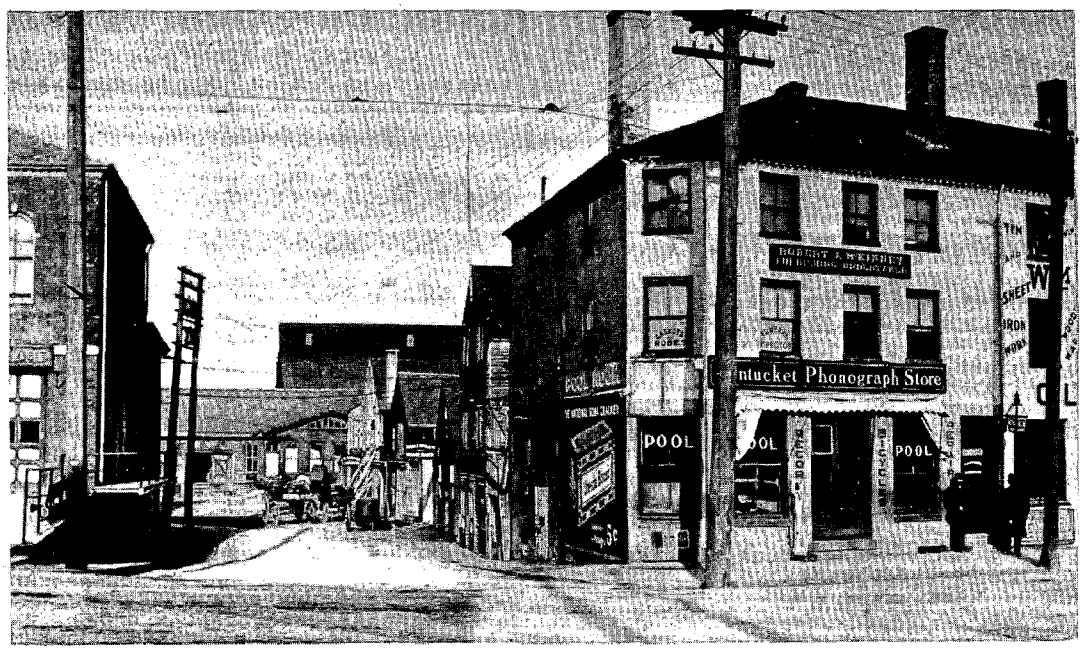


B

Fig. 9.9. The industrial waterside. A, First coal pocket, ca. 1886; compare with Fig. 9.4C. B, Both coal pockets, ca. 1895; note rear of Custom House, left center. Photos courtesy of the Newburyport Public Library.

A



B

Fig. 9.10. Market Slip becomes Railroad Avenue. A, Market Slip ca. 1862; site where at high tide the bowsprits of small vessels could project across the sidewalk onto Market Square. B, Same view, ca. 1908 showing the freight depot, the business of A.C. Currier, carpenter, and the shop of John J. McClew, horseshoer. Photos courtesy of The Essex Institute, Salem, Mass.

A

B

Fig. 9.11. Market Square businesses, ca. 1888. A, Samuel March in front of March's Cheap Cash Store, east half of the Davenport Building. B, Water Street, looking east; compare with Fig. 9.6. Photos courtesy of Newburyport Public Library.

Of those businessmen who survived the transition period of the 1870's, one wholesaler (Isaac Boardman) changed location, then disappeared during the following decade; the sail makers (Benjamin and William Davis) became tent and awning makers; the pump and block makers (Henry Stockman & Son) changed location and became furniture dealers and later sold stoves and hardware. Generally speaking, many small businesses which were dependent upon shipping and shipbuilding were replaced by fewer, larger firms dissociated from the traditional activities of the waterfront. Once the market center for the entire region, the Central Waterfront and Market Square gradually deteriorated. By 1900 "the wharves" was synonymous with "the wrong side of town." Junk dealers, coal pockets, tenements, saloons, and dilapidated buildings constituted the area's new image.

Recent History

The early 20th century history of the Central Waterfront is too fresh in the minds of Newburyport's older residents to be thought of as historically significant. Indeed, the area has no longer been influential in determining the course of the city's economy--at least until the present redevelopment project. Perhaps the neighborhood will eventually be noted as the home of the city's outspoken former mayor, Andrew J. Gillis. "Bossy" Gillis gained national notoriety in the late 1920's as a roughneck, "no nonsense" politician who occasionally found himself in jail when he should have been in office. He operated a gas station (1) at the west end of the North Row up through the 1960's, and at one time lived in an apartment immediately above it (Jacobs 1968:59,79). Future generations may take interest in facts that some people today would rather forget--that this was the site where every morning in the early months of the depression Bossy Gillis would climb onto the back of his truck and deliver a tirade against his political opponents, particularly the old Yankee families on High Street.

10. EPILOG

For twenty years, Newburyport has been the setting for numerous scholarly works dealing with history or social theory. The list of contributors is impressive, and includes Warner (1963), Thernstrom (1964), Coffey (1974), Labaree (1975) and Goodman (1975). Each has found here different peoples, periods, and phenomena to be of historical significance.

It is not surprising that many of the topics considered by Newburyport's biographers are reflected directly or indirectly in the seemingly complex history of the Central Waterfront. As this area was once the focal point of community activity, most major local events are inextricably interwoven into the fabric of its past. The periods of Newburyport's economic expansion and retrenchment have proved to be closely linked to the construction booms and property divisions which have occurred along the Central Waterfront. This developmental history has been preserved in substantial physical remains. The Federalist architecture which stands today is complemented by ruins of past stores, warehouses, workshops and wharves, as well as the refuse of its residents, artisans, and industries. The history of these five acres, then is of considerable moment in delineating and explaining commercial and industrial development.

Important as the Central Waterfront was to Newburyport, it remains to place its historical significance in regional perspective. The authors cited above were attracted to Newburyport because they found it in some way representative of small Yankee seaports. In the same way, the general pattern of land use at the Central Waterfront is all the more significant because the major transformations in form and function were not the result of ideosyncratic fortunes of an isolated community. The forces which altered Newburyport caused remarkably similar changes in other seacoast waterfronts. The regional significance of the history preserved at the Central Waterfront can readily be appreciated by considering the evolution of another historic port, Strawberry Banke (Pendery and Chase, 1977; Ingersoll 1977).

Strawberry Banke, located just 19 miles to the north of Newburyport, was the original settlement at Portsmouth, New Hampshire. Like Newburyport, this community developed at the mouth of a major river, the Piscataqua, giving it access to the natural resources of the interior. The settling of Strawberry Banke began ca. 1630, just a few years before Newbury was founded. Both populations were initially made up of subsistence farmers as well as some fishermen and essential craftsmen.

Strawberry Banke began exporting local lumber in 1654, shortly before Newbury built its first wharf. Throughout the rest of the 17th century, Strawberry Banke developed its shipbuilding industry, and constructed several vessels under contract for the British Navy. At this same time, similar vessels were being built at Newbury and Salisbury for merchants in Boston and London. From 1690 to 1710, Strawberry Banke's waterfront properties grew in value with the development of the port's mercantile economy. Many wharves were built during this period, and the waterfront then became the focus of the community. This growth was nearly equivalent to that experienced at the Central Waterfront in the first quarter of the 18th century.

From the beginning of the 18th century, Strawberry Banke, like Newbury, developed both a local coasting trade and international commerce with the West Indies, England, and Europe. Increased prosperity was reflected in the high population density which the port was able to sustain. The character of Strawberry Banke at this time was similar to that of Newburyport, although the settlement was crowded, having been built up around a cove with no room for expansion.

> ... in 1727, 298 structures stood on the land by the "Creek"; by the latter half of the eighteenth century 328 additional edifices had been raised... The shops of cabinetmakers, silversmiths, blacksmiths, and potters provided the community's households with both luxury and necessary items (Pendery and Chase 1977:6).

As in Newburyport, early craftsmen shared portions of the waterfront with moderately wealthy merchant neighbors.

According to Pendery and Chase (1977:14), Portsmouth's harbor was closed during the Revolutionary War, and maritime shipping was almost entirely halted. Newburyport, however, enjoyed substantial success in privateering, and her private navies brought back substantial wealth. While the war marked a severe economic decline in Portsmouth, Newburyport and other coastal towns in Massachusetts reaped some financial rewards, at least in privateering. Thereafter, however, the histories of the two ports again run parallel. Both suffered severe post-war economic depression caused, in part, by the closing of the British West Indies to Yankee traders. Similarly, both emerged from this depression in the 1790's, and their merchants gained substantial profit from neutral trade with the warring British and French.

Portsmouth experienced an increase in population of 50 percent between 1790 and 1810 (Pendery and Chase 1977:14), a figure which is virtually identical to the growth of Newburyport at this time. While Newburyport invested much of its wealth in redesigning and rebuilding its port facilities, Portsmouth apparently began to outgrow the tiny Colonial facilities at Strawberry Banke, then known as "Puddle Dock." The prosperity of neutral trade was short-lived, and in both ports the mercantile economy suffered greatly from the years of embargo and the War of 1812. Neither was to regain its former prominence after the war.

At this time, Puddle Dock and the Central Waterfront differed substantially in their physical makeup. In 1800, Puddle Dock was crowded with Colonial frame structures. The Newburyport waterfront, by contrast, had begun a period of redevelopment in which Federalist architecture replaced Colonial. Although both towns were struck by great fires, Newburyport in 1811, and Portsmouth in 1813, the Colonial architecture at Puddle Dock survived, whereas the remaining frame buildings of the Central Waterfront were destroyed and were replaced by Federalist structures.

Later, through the 19th century, Newburyport's financial district remained centered about the Central Waterfront, while Portsmouth's was relocated about the railroad. Puddle Dock gradually became a residential slum, its buildings owned primarily by absentee landlords. Interestingly, the wharves in both areas experienced similar fates. By the 1870's both were used for storing coal and wood. Newburyport's slips were backfilled in 1872 to make way for

railroad construction. The polluted sloughs of Puddle Dock were filled in between 1899 and 1903, presumably because they had become a health hazard.

The histories of the early waterfronts of Portsmouth and Newburyport, then, although parallel in many respects, are complementary in others. Clearly the surviving remnants are quite different. The architecture of Puddle Dock, although it has been substantially modified over the years, has its origins in the residences of Colonial merchants and craftsmen, whereas in Newburyport, a Federalist business district is preserved. Puddle Dock survives as an historic tourist attraction and houses museum and archaeological facilities together with a few small craft shops. It exists today in what is primarily a residential district. Newburyport's Central Waterfront, though it is also geared to attract tourists, is a functional business district intended to serve the contemporary needs of the community. The surviving buildings here, and throughout Market Square retain the same vertical segregation of businesses, offices, and residences for which they were originally designed.

The historic waterfronts of Newburyport and Portsmouth have been preserved because the economic forces which created them were not replaced by vital, competing enterprises. Strawberry Banke was laid out as a Colonial seaport, designed to handle the modest tonnage transported in that era of small ships. The commercial interests were gradually abandoned when Federalist expansion gradually outgrew this tiny facility. Eventually, Portsmouth regrouped about the railroad further upstream and the Strawberry Banke area became entirely residential. Newburyport's Central Waterfront and business district, on the other hand, was quite adequate to serve Federalist needs in the boom of international trade and never became obsolete. When this trade was siphoned off to Boston and other large ports, the local commerce which replaced it was adequately accommodated by the existing facilities. Only the waterside itself was transformed, as rail transportation substituted for coastal shipping. Had either Puddle Dock or the Central Waterfront remained active growing seaports, rising real estate prices would have encouraged demolition and replacement of structures as they became outdated (Lewis 1975:8). Instead, both have survived as complementary vestiges of Colonial and Federalist prosperity.

APPENDIX A

PROFILE DESCRIPTIONS AND INTERPRETATIONS

All sediment designations are made in the Munsell color system, and were taken on moist samples unless otherwise noted. Similarly, all sediments are presumed to be loose and structureless except where specific plasticity and structure categories are mentioned. Standard texture categories are used, unless cultural refuse comprises more than half the sediment, in which case it is designated ash, rubble, shell, coal, etc. Sediment contents are listed in order of approximate descending dominance. Within major stratigraphic units, strata designations are given in stratigraphic order from most recent to most ancient. Where two sediments are presumed to be contemporaneous or are lenses within a stratum, they carry the same letter with a distinguishing numeral. Note that these letter-numeral combinations do not, of course, designate soil units; true soil did not develop along this urban waterfront. Each profile description is followed by a brief interpretation of the deposition sequence.

Note that artifacts mentioned in the strata descriptions are only those few specimens which appeared directly in the section being profiled, and are not to be confused with the large assemblages of artifacts retrieved by hand from the areal excavations. Specific assemblages discussed in the text are mentioned in the narrative of the profile interpretations, however, where they are clearly identified.

Test Trenches

Trench 1 -- City Wharf A (Fig. A.1)

Test trench 1 consists of an overlapping three-pit sequence, the middle of which has been eliminated here as it proved to be redundant. This transect was taken near City Wharf in an attempt to locate the mid-19th century granite perimeter of the wharf and any buildings which may have existed there prior to construction of a railroad spur in 1872.

Unit I

10YR3/3 dark brown gravelly sand and rubble with frequent 10YR5/6 yellowish brown mottles; compact; containing brick fragments, coal, wood pebbles, slate, wood, iron, shell, ash, cinders. Plastic wrapper ("Drakes' Junior... Borden Inc.") on contact with Unit II. Very abrupt, smooth boundary to Unit II.

Unit II

10YR3/1 very dark gray sandy rubble; containing shell, cinders, wood, coal, window glass, iron. A carbon battery post was noted near the bottom of this unit. Also contains the following lenses:

a1 10YR3/1 very dark gray medium sand; compact; containing shell, rounded pebbles, slate roofing, asphalt. Slate roofing on contact with b1.

a2 10YR5/4 yellowish brown sand.

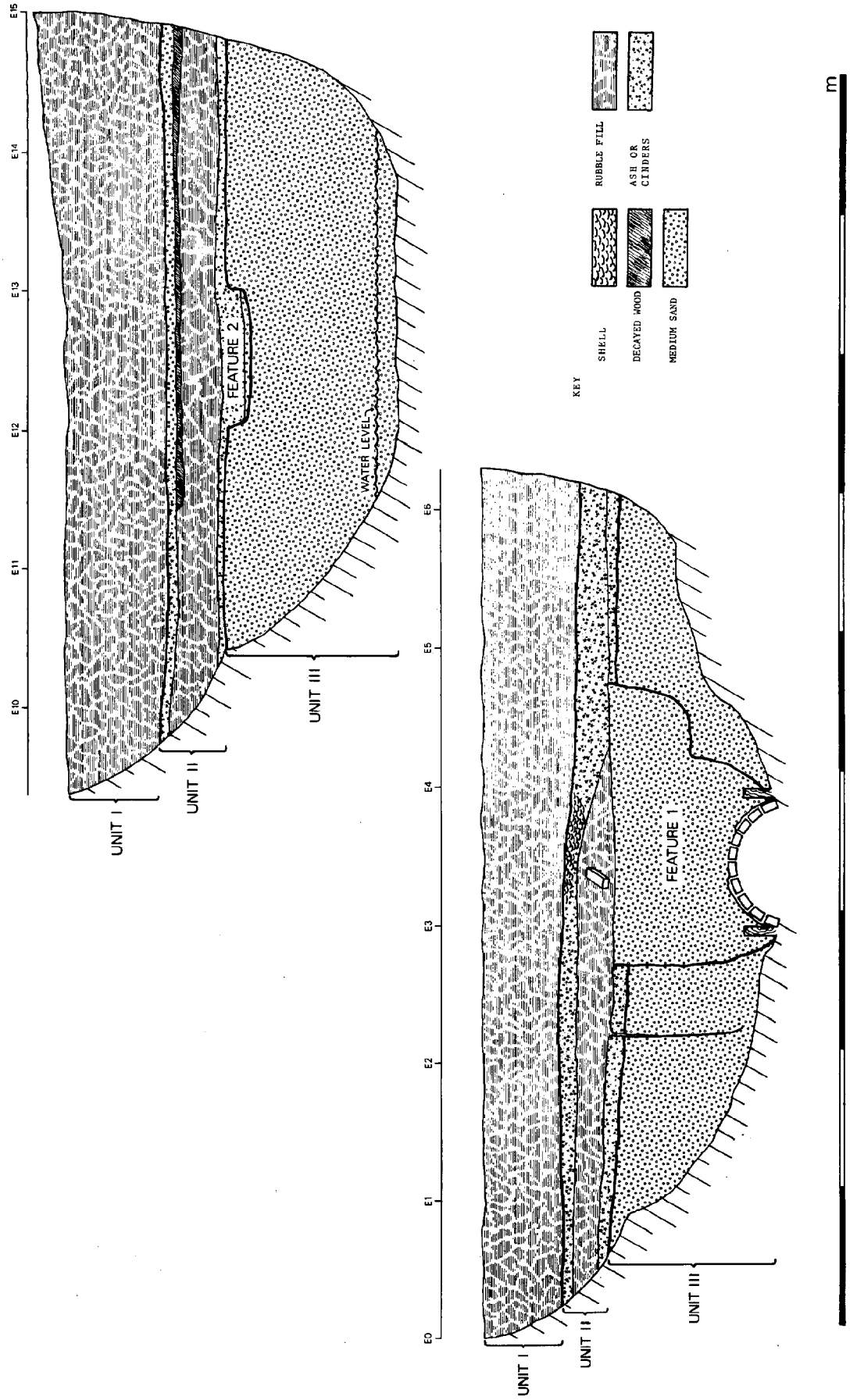


Fig. A.1. Trench 1, western and eastern sections of a three-trench transect through the fill of Market Slip. Cut into this primary fill are a brick storm sewer (Fea. 1) and an unidentified disturbance (Fea. 2). Above these features are accumulations of industrial and marine waste (Unit II) and demolition rubble (Unit I).

a3 10YR3/2 very dark grayish brown sand.

a4 Oyster shell.

b1 10YR4/4 dark yellowish brown sand; compact; containing bricks, brick fragments, and a clay pipestem ("GLASGOW").

b2 Wood fragments; apparent demolition material.

Very abrupt smooth boundary to Features 1 and 2 and Unit III.

Feature 1 -- brick drain and associated trench fill
10YR3/3 dark brown sand, with 10YR3/1 very dark gray lenses and mottles; containing brick, cinders, bare copper wire, aquamarine bottle glass. Very abrupt intrusive boundary to Unit III.

Feature 2 -- minor intrusion
10YR3/3 dark brown medium sand. Very abrupt intrusive boundary to Unit III.

Unit III
10YR5/6 yellowish brown, loose medium sand with infrequent 10YR3/1 very dark gray mottles; gradual transition to 5Y3/2 dark olive gray (wet), coarse sand near the water table; containing small pebbles and cobbles. Apparently sterile fill. Extends to at least 2.5 m below surface.

The earliest sediment deposited here is represented by Unit III sand. This is apparently sterile fill, for it is substantially mottled, and lacks the regular horizontal banding expected in estuary deposits. It shows gleying in its lower part, indicative of the alternate wetting and drying occasioned by tidal fluctuations. This is capped by a stratum of coal, coal dust, and ash, which probably dates after 1872, when the railroad was constructed. Intrusive into these two sediments is a builder's trench containing an abandoned brick sewer or drain. Bare copper wire of the type used in the early telegraph systems suggests that this construction occurred in the last quarter of the 19th century, or shortly before. Note the slumping of the loose sand wall of this trench and the slump fissure on the west wall, a result of the instability of the sand fill, Unit III. A second, minor intrusion, Feature 2, dates before sewer construction, but its significance is unknown.

Unit II, by contrast, is composed of layers of ash, brick rubble, and wood rubble interspersed with shell lenses and layers of banded sand. The regular stratification of these lenses suggests an uninterrupted accumulation of refuse and demolition debris. This debris derived from mid-19th century buildings having slate roofs, but the recovery of a modern "D" cell carbon post (flashlight battery) near the bottom of this unit assures that they were razed in the 20th century. Capping Unit II is a layer of broken asphalt--pavement present in the mid-sixties, at the time of recent HUD demolition. This same asphalt was found intact above Trench 2. Above this, in Unit I, is recent demolition from buildings razed in the current redevelopment program.

The stratigraphic sequence implies the following:

1. Trench 1 is situated over a former slip which was open until late in the 19th century.

2. No buildings could have been constructed in this area until after the slip was backfilled.

3. The area was filled and leveled, probably in preparation for the railroad spur and coal pocket known to have been constructed in early 1870's.

4. Shortly thereafter, a substantial brick storm sewer was installed. This was probably necessitated by railroad and coal pocket construction which in filling in the former slips, occluded the former drainage outlets.

5. Further demolition occurred in the 20th century, once the railroad and coal pockets had outlived their usefulness.

6. Remaining structures were razed in the current redevelopment project.

Trench 2 -- City Wharf B (Fig. A.2)

A plan of the Market Landing in 1775 gives a reasonably precise location for the warehouse and wharf of merchant Benjamin Greenleaf (Currier 1906:131). Trench 2 was intended to locate the remains of this structure so that it could be excavated by hand. First, however, it was necessary to remove up to 2.5 m of recent demolition rubble which had accumulated in the process of renewal. The area cleared is indicated in hachure on the base map, Fig. 2.1. Trenching within this area revealed that the foundations of structures on the wharf had been obliterated. When it appeared that any evidence for the Greenleaf warehouse had been destroyed, trenching was continued to locate the structure of Greenleaf's Wharf, a precursor to City Wharf. Three profiles, recorded in detail in the extremely unstable sand fill, are shown here.

South Wall AB

Unit I

10YR4/2 dark grayish brown medium sandy rubble; very loose, containing granite blocks, concrete foundations pieces, reinforcing rods (re-bar), bricks, asphalt, wood, etc. Asphalt on contact with Unit II. Very abrupt, smooth boundary to Unit II, Feature 1, and Feature 2.

Unit II

a 10YR3/1 very dark gray sandy loam; weak crumb structure, containing organic matter, brick fragments, rounded cobbles and pebbles, bottle and window glass.

b1 2.5YR4/4 olive brown sandy gravel; compact; containing pebbles and cobbles; little cultural refuse.

b2 5Y3/2 dark olive gray sand lens within IIb1; containing fragmentary clam and oyster shells.

c 2.5YR4/4 reddish brown brick dust; containing few brick particles, brick, mortar.

Very abrupt, smooth boundary to Unit III.

Feature 1 -- *tile drain and associated trench fill*
10YR3/1 very dark gray sandy gravel with numerous 10YR4/3 brown to dark brown lenses; containing brick fragments, coal, large pebbles, plastic fragments, window glass, etc. Very abrupt, intrusive boundary to Units II, III, and IV.

Feature 2 -- water main and associated trench fill
10YR4/2 dark grayish brown medium sand; very loose. Very abrupt, intrusive boundary to Units II and III.

Unit III
a 10YR3/1 very dark gray medium sand; compact, containing large, rounded pebbles, window glass, occasional brick flecks; includes the following lenses:

a1 10YR6/1 light gray to gray coal ash lens; containing coal and ash.

a2 10YR5/3 brown coal ash lens; containing coal, ash, and clinkers.

b 10YR5/3 light yellowish brown (dry) medium sand; very loose; containing small to large rounded pebbles. Apparently sterile. Includes the following sand lenses:

b1 10YR6/4 light yellowish brown (dry) medium sand; very loose; containing small to large rounded pebbles. Apparently sterile. Probably a flood sediment formed while IIIb was being deposited.

b2 10YR5/2 grayish brown coarse sand lens with 10YR3/2 very dark grayish brown fine bands; containing brick particles.

Very abrupt contact boundary to Unit IV.

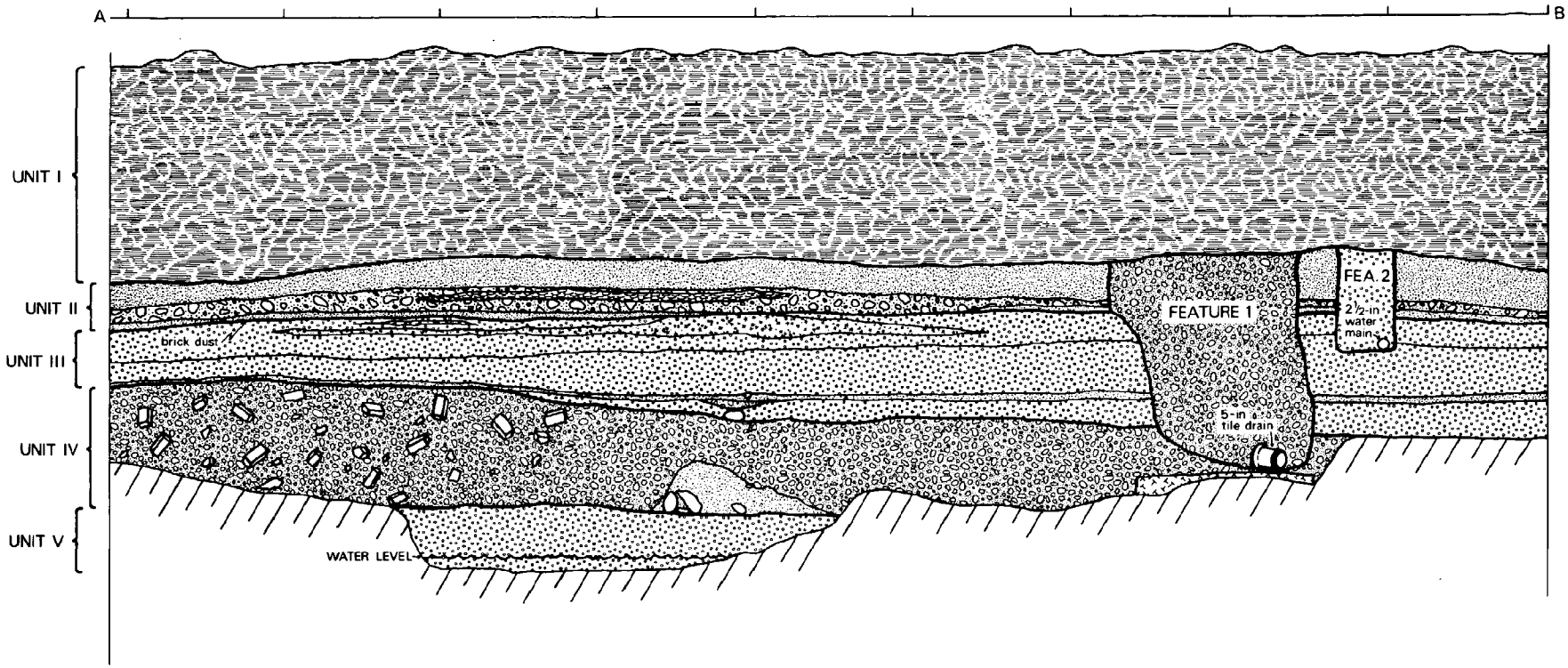
Unit IV
a 10YR3/2 very dark grayish brown coarse sand; containing large pebbles, extensive bricks and brick fragments, mortar, wood fragments, rubble especially dense in the eastern sector of the profile. Very abrupt, smooth boundary to Stratum IVb and Unit V.

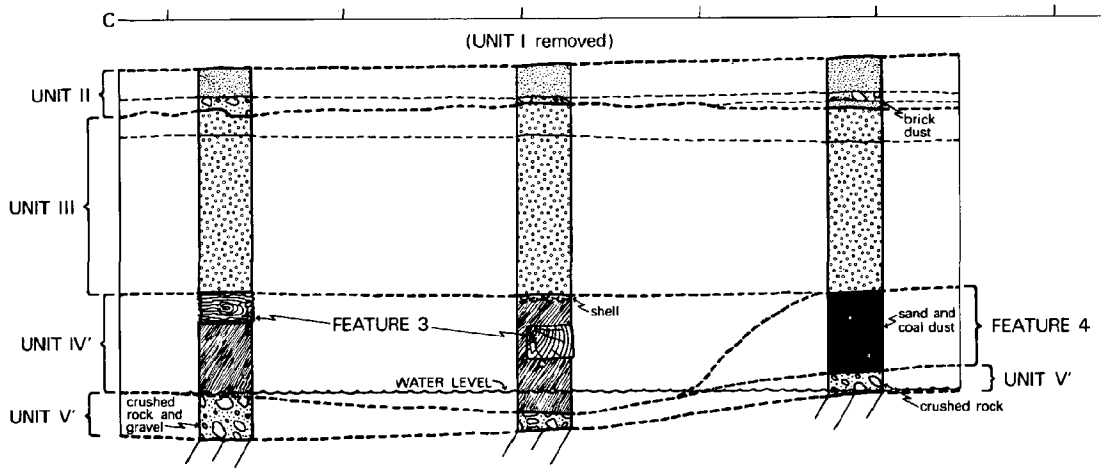
b 10YR3/2 very dark grayish brown fine sand; slight plastic, non-sticky; containing angular and rounded cobbles, charcoal, small pebbles. Abrupt, smooth boundary to Unit V.

Unit V
a 5Y3/2 dark olive brown (wet) fine to medium sand; slightly plastic, non-sticky; containing angular pebbles and cobbles, brick particles. Extends well below water table.

<u>North Wall CD</u>

Unit I
Removed, including asphalt paving immediately on contact with Unit II.


A
B
UNIT I
UNIT II
UNIT III
UNIT IV
UNIT V
brick dust
FEATURE 1
FEA. 2
2½-in water main
5-in tile drain
WATER LEVEL


C
D
(UNIT I removed)
UNIT II
UNIT III
UNIT IV'
UNIT V'
brick dust
FEATURE 3
shell
sand and coal dust
FEATURE 4
WATER LEVEL
UNIT V'
crushed rock and gravel
crushed rock

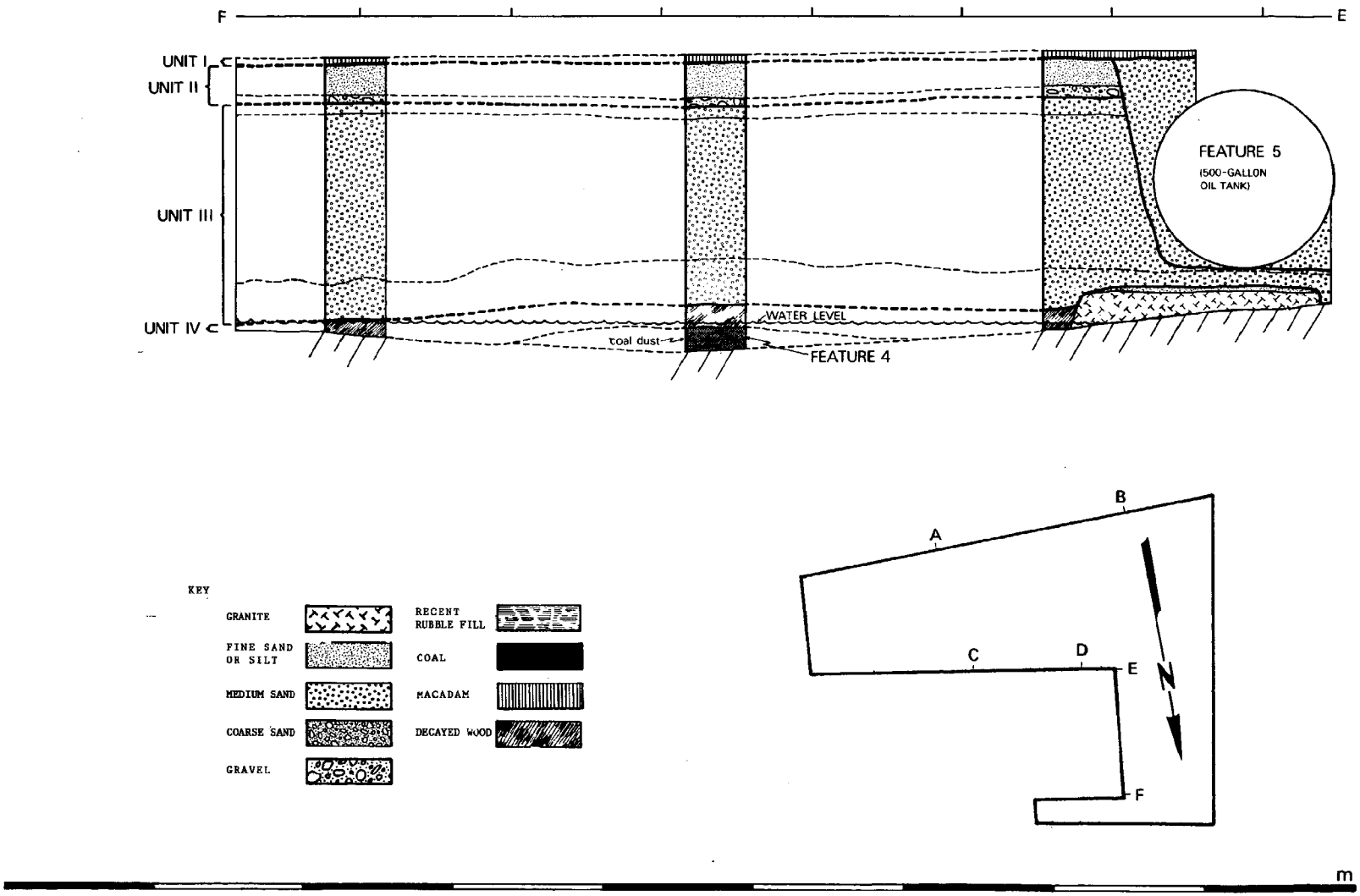


Fig. A.2. Trench 2 profiles, City Wharf.

Unit II
See south profile. Includes the following strata:

a 10YR3/1 very dark gray sandy loam.

b1 2.5Y4/4 olive brown sandy gravel.

c 2.5YR4/4 reddish brown brick dust.

Abrupt boundary to Unit III.

Unit III
See south profile. Includes the following strata:

a 10YR3/1 very dark gray medium sand.

b 10YR6/4 light yellowish brown (dry) medium sand.

Abrupt boundary to Unit IV'.

Unit IV'
a1 10YR3/1 very dark gray (wet) silt loam; plastic, slightly sticky; containing wood beam fragments in apparent random orientation, large rounded pebbles, bird bones. Evidently demolition of wooden cribbing.

a2 10YR3/1 very dark gray (wet) fine to coarse sand; slightly plastic, non-sticky; containing wood fragments, bricks and brick fragments, shell; also containing a 1 cm thick lens of 10YR4/2 dark grayish brown coarse sand, crushed and disintegrated shell, and small brick particles.

b 10YR3/1 very dark gray fine to medium sand; slightly plastic, non-sticky; containing small brick fragments, wood fragments, rounded pebbles. Cribbing fill.

Abrupt boundary to Unit V.

Feature 3 -- cribwork for warehouse foundation
Large rotted timbers, approximately 9 in by 7 in.

Featue 4 -- coal dust fill
a 10YR2/1 black sand; containing coal dust, brick fragments, stranded copper wire, one 4 in by 4 in wood post.

Unit V
a1 5Y3/2 dark olive gray (wet) coarse sand; containing angular crushed rock, pebbles, cobbles, brick particles. At and below water table.

a2 5Y3/2 dark olive brown (wet) fine to medium sand with gravel; slightly plastic, non-sticky; containing brick particles, rounded and angular pebbles and cobble. Note: no crushed rock.

a3 5Y3/2 dark olive gray (wet) sand; slightly plastic, non-sticky; containing small brick particles, brick fragments, crushed rock, pebbles and cobbles. Banded. Apparently fill.

North-South Transect Along FE

Unit I
Removed except for asphalt at contact with Unit II.

Unit II
See south profile. Includes the following strata:

a 10YR3/1 very dark gray sandy loam.

b1 2.5Y4/4 olive brown sandy gravel.

Abrupt, smooth boundary to Unit III.

Feature 5 -- 500-gallon steel fuel tank and fill
10YR4/2 dark grayish brown medium sand; loose.

Unit III
See south profile. Includes the following strata:

a 10YR3/1 very dark gray medium sand.

b 10YR6/4 light yellowish brown (dry) medium sand.

c 2.5Y4/4 olive brown medium sand; very loose, unstable; capped by a band of 10YR5/8 yellowish brown medium sand. Gleying results from alternate wetting and drying of the profile with changing tides.

Abrupt boundary to Unit IV'.

Unit IV'
See north profile. Includes the following strata:

a3 10YR2/1 black (wet) fine sand and organic matter (decayed wood), with bands of 10YR5/1 gray fine sand; contains oyster shell at contact with granite block.

Feature 4 -- coal dust fill
See north profile. Includes the following stratum:

a2 10YR2/1 black (wet) medium sand and coal dust; non-plastic, non-sticky; loose.

The first portion of Trench 2 excavated was the main trench, which runs east-west, and was dug with the same large backhoe used to remove the overburden. Our intention was to dig a wide, stepped trench with stable walls which could be profiled several decimeters below the water level. The initial excavation went substantially below the level shown in the profiles, but in spite of our precautions, the walls collapsed under hydrostatic pressure. We were able, however, to profile down to what was apparently the original shoreline prior to wharf

extension. The north wall of the profile revealed a cribwork of wooden beams which were first thought to represent a section of wharf construction, but which were later identified as wooden footings. Granite blocks, probably pads for these timbers, were also uncovered.

A second, smaller trench was dug parallel to the first, the northern ell shown in Figure 4. In this case, we did encounter the vertical timbers of a former wharf edge. Again the loose fill above the structure collapsed before the feature could be safely profiled. A transect connecting the two pits was then dug in an effort to trace the wharf back toward the main trench. Although it does not appear in the profile, the transect clearly revealed that the wharf did not continue southward, and that it was not directly related to the timbers found in the main trench.

The correlation of Trench 2 profiles relies heavily on property descriptions and historic photographs, for while the stratigraphic events are clearly defined, they are not self-explanatory. Of key importance is the correlation of the north and south walls of the main trench. The earliest strata, in Unit V, consist of beach gravels and pulverized brick, sloping sharply down toward the river. This is probably well-worked beach sediment from the shore as it existed immediately prior to wharf extension. Apparently some angular rock and gravel fill has been added on the southern side of the trench, perhaps to stabilize and level foundation timbers.

The overlying strata are quite different on the two sides of the trench. Unit IV', on the south side, contains wooden cribbing and the rotted demolition of some wooden structure, and is free of bricks and brick fragments. The opposite wall, in an entirely different matrix, contains an area of extensive brick demolition. Clearly the excavation cuts through the boundary between two distinct structures. It is apparent that the main trench passes directly over the south end of a former frame building. Bottle trash and ceramics, excavated by machine and identified in the field as coming from Unit IV', may date the razing of that structure. Snap-case finished bottle fragments and bits of aquamarine pictorial flasks bracket the date of the manufacture of this trash at between 1857 and 1870 (Lorrain 1968:44). It was probably deposited shortly thereafter. The significance of a lens or intrusion of sand and coal dust in this unit is not known, but implies some former coal storage at this location.

Note that there is still at this period a sharp break in the topography across the main trench. The contact between Unit IV and Unit III drops at least 50 cm from the south wall toward the north wall, but then levels out as shown in the FE profile. This break in elevation probably reflects much earlier events. Deed research implies that the main trench was located just beyond the limit of wharf construction in 1718. Probably the drop in question was preserved in the landscape even after the wharf was extended.

Unit III is dominated by Stratum IIIb, a very loose, sterile sand. Evidently this was brought in after the frame building and its brick neighbor had been demolished to level the surface of City Wharf for railroad construction in 1872. On top of this level surface is an accumulation of coal, ash, and clinkers--waste from the railroad activities or neighboring businesses. Lenses of these waste materials extend over both profiles, indicating that this is now regarded as a single piece of property.

Unit II documents a series of late 19th and early 20th century land surfaces, including a thin lens of brick dust where bricks may have been stored after rail shipment. Above this is a gravel road surfacing which covered the entire excavation area, which was then the freight yard for the railroad. Evidently this area was allowed to grow up in weeds or grass in the 1930's and 40's, for a soil horizon began to develop in Stratum IIa. Subsequently, several intrusions occurred. A tile drain (Feature 1) was installed which drained the area about the John Greenleaf Building, a four-story brick structure which stood on City Wharf until the current redevelopment of the waterfront. A 2½ in water main (Feature 2) was installed leading toward the waterfront, perhaps in anticipation of future development. A 500 gallon fuel tank (Feature 5) was buried at the northwest corner of the trench, which in the 1950's served the new Studebaker garage (later the Newburyport Press plant) next to the John Greenleaf Building. By the early 1960's, the entire area was paved. The subsequent rubble, Unit I, derives from razing the Newburyport Press and John Greenleaf buildings.

The following events can be inferred from this sequence:

1. The remnants of an early wharf were found in the northern ell of the excavation. Only that portion which extended below sea level was preserved. This probably was an extension made to Brown's and March's Wharf some time after 1718 (Fig. 3.1). In our reconstruction, this is taken to be the edge of a wharf owned in 1743 by John Kent (ECRD 84:262).

2. The south end of a frame building, represented only by scattered footings, was located. These were probably the remains of the most recent structure known to have occupied this site--a three-story frame warehouse, built on the low end of the City Wharf in about 1800 and razed ca. 1871. The remains of Greenleaf's warehouse were apparently destroyed in the construction of this building. All that remains of the later warehouse are footings; cultural refuse and demolition materials seem to have been cleared away.

3. It is probable that a late 18th or early 19th century brick structure existed on the higher land immediately to the south of our excavation on more stable ground. This was demolished after the frame warehouse was built, for the brick demolition rubble terminated abruptly at the edge of our excavation. This may have been an antecedent to the John Greenleaf Building, or a small structure lying between it and the warehouse.

4. The frame warehouse was dismantled ca. 1871 to make way for the railroad. The area was leveled with extensive fill, and became the main public access to the freight depot.

5. The freight yard went through a stage of gravel paving, but then grew up in weeds in the second quarter of the 20th century after the railroad went into disuse. A one-story garage, later converted into a printing plant, was then built just to the southwest of the trench. The surrounding area was surfaced in asphalt some time after World War II.

Trench 3 -- Custom House Slip (Fig. 3.7, p. 38)

Test trench 3 was excavated to sample the end of the way past the Custom House, and to find the edge of Gunnison's Wharf and any other structures which may have stood adjacent to the way. What was uncovered was the head of the

Custom House slip, the record of its filling and subsequent use, and the demolition of adjacent buildings.

Unit I

10YR4/1 dark gray silt; compact; containing ash, cinders, coal, window glass, bricks and brick fragments, miscellaneous 20th century scrap metal. Very abrupt, wavy boundary to Unit II.

Unit II

a1 5YR4/6 yellowish red iron deposit (slag); very hard, massive.

a2 10YR5/2 grayish brown cinder lens within Stratum IIa1; containing coal fragments, clinkers, cinders, wood.

b1 10YR5/2 grayish brown cinder lens.

b2 10YR2/1 black coal; containing soft coal, coal dust.

c 10YR3/2 very dark grayish brown sand.

Abrupt, smooth boundary to Unit III.

Unit III

a1 10YR3/2 very dark grayish brown sand, with 10YR2/1 black coal dust mottles; compact; containing brick fragments, coal. Clear, smooth boundary to Feature 1.

a2 10YR2/1 black sandy coal dust; containing coal, sand. Very abrupt wavy boundary to Stratum IIIb.

b 10YR4/2 dark grayish brown sand.

c 10YR5/1 gray cinders and brick rubble fill; containing bricks and brick fragments.

d 10YR5/3 brown sand; containing brick fragments.

Very abrupt, smooth boundary to Unit IV and Feature 2.

Feature 1 -- 3 in cast iron drain and associated trench fill

a 5YR4/6 yellowish red sand lens.

b 10YR4/2 dark grayish brown sandy rubble; containing bricks, shell, cobbles, pebbles, bone (chicken). Very abrupt intrusive boundary to Units III and IV.

Feature 2 -- granite foundation

Dry granite field stone masonry. Abrupt smooth boundary to Stratum IVd1.

Unit IV

a 10YR3/2 very dark grayish brown sand; compact.

b Clam and oyster shell lens.

c 10YR3/2 very dark grayish brown sand; compact; containing bricks, shell, cinders, clear bottle glass, ceramics (plain ironstone).

d1 10YR3/3 dark brown clayey sand; slightly sticky, slightly plastic; containing brick, cobbles, oyster shell, cinders, long bone fragment.

d2 10YR4/2 dark grayish brown sand; containing brick, slate roofing. Water-logged.

The relative chronology of sediments in Test Trench 3 was ambiguous, for it failed to delimit clearly the edge of the wharf, and did not adequately sample those structures which were built later on top of the wharf. For reasons which will become apparent, we chose to resolve these questions by digging further out along the wharf in Trench 4. However, Trench 3 did settle a few problems.

All the sediments of Unit IV, which are apparently beach accumulations within the Custom House slip, tilt some 10-15° toward the Merrimack River, indicating that this was the head of the slip. The lowest of the slip fill sediments contains brick and slate roofing; it is unlikely that the latter could have been deposited here prior to 1830, and in all probability it dates substantially later. The late 18th century delftware found in the stratum immediately above must therefore be redeposited fill.

The remnants of footings for some structure are clearly intrusive into these slip sediments, although it is impossible to associate this clearly with a particular building, since the excavation did not extend sufficiently far westward. A westward extension would require sectioning the concrete footings and floor of a recently demolished building at the edge of these buildings. It was apparent, however, that this was an inappropriate location to perform such a major undertaking; it seemed far more profitable to dig further out along the slip where we were more likely to uncover a representative section of the wharf. Trench 4 was excavated to solve these problems.

The sand of Unit IIId was evidently placed there intentionally in leveling and filling the abandoned slip. The top of this sediment is level, while the bottom slopes some 10° downward toward the Merrimack. It is likely that this occurred shortly after 1872, when the embankment for the City Railroad spur closed off this portion of the slip. The multiple layers of coal, cinders, and ash which accumulated since the coming of the railroad show the area to have been used for industrial waste, probably emanating from nearby machine shops, blacksmith shops, etc. Brick rubble interspersed with all this refuse attests to the demolition of adjacent buildings. Once a prized piece of real estate providing access to the waterfront, it suddenly became a landfill site.

Intruding into the sediments of Units III and IV was the builder's trench for a 3 in cast iron pipe, a drain installed after 1885. As might be expected, the associated fill includes materials from a wide timespan, the most recent including heavy ironstone, popular during the second half of the 19th century. This building's trench also appears in the section at Trench 4.

Unit II represents a second stage of leveling the landscape, perhaps at the end of the century, followed by continued buildup of cinders and coal. At this level, however, there is a considerable accumulation of slag, confirming the presence of a nearby foundry. These horizons also appear in the Trench 4 section.

Although Unit I is the modern land surface, most of the refuse contained in this unit dates prior to ca. 1940. The trash is predominantly salvaged metal from a junk yard which existed behind the Custom House until the recent renovation of that building in the late 1960's. A temporary gravel pavement is mixed with these materials.

The following chronology is implied:

1. When the Custom House was built in 1835, the head of the Custom House slip was located at approximately the position of this test trench.

2. The slip was deliberately filled in a single stage of construction. This must have occurred after 1872 when the City Railroad was built across the far end of the slip.

3. Coal and ash accumulations show that this area was regularly used to dump industrial waste throughout the last quarter of the 19th century.

4. Construction and demolition episodes appear in the profile at this time, but are much clearer in the Trench 4 profile which follows.

5. A cast iron drain was next installed, perhaps to remedy a water problem caused when the slip was blocked and filled.

6. A new, level land surface was prepared on top of the late 19th century waste, after which iron foundry slag accumulated.

7. Within the temporary gravel of the current land surface is a thin layer of metal scrap and junk, accumulated in the second quarter of the 20th century when the area behind the Custom House served as a junk yard.

Trench 4 -- Gunnison's Wharf (Fig. 3.7, p. 38)

Trench 4 was dug in two stages. The east section of the trench was intended to sample the slip and subsequent slip fill behind the Custom House, while the west segment sectioned through a concrete foundation built on the remains of the adjacent wharf. The two profiles were taken from opposite walls of the trench 1.5 meters apart, and show minor stratigraphic misalignment.

Unit I

10YR4/1 dark gray silty rubble; containing ash, cinders, coal, window glass, bricks and brick fragments, scrap iron. Very abrupt, smooth boundary to Unit II.

Unit II

a1 10YR6/3 pale brown loose sand above wharf; containing 10YR4/1 dark gray cinder and coal lenses, clinkers, pebbles, iron refuse.

a2 10YR4/4 dark yellowish brown sandy silt above slip; weak platy structure; compact; containing small, infrequent cinder and coal lenses, porcelain lavatory fitting.

b 10YR2/1 black coal lens above wharf.

c1 10YR4/3 brown to dark brown sand above wharf; containing small brick fragments, pebbles, coal flecks.

c2 10YR3/2 very dark grayish brown slag above wharf with 10YR5/6 yellowish brown iron-bearing clay; indurated; containing coal, cinders.

c3 2.5YR4/0 dark gray slag above slip with 2.5Y5/6 light olive brown mottles; indurated; containing coal, wood, brick fragments, broken iron casting pieces. Galvanized sheet steel and slate shingle fragments on contact with Unit III.

Very abrupt, smooth boundary to Unit III.

Feature 1 -- concrete slab floor, building footings, and associated trench
Brick rubble with 10YR4/2 dark grayish brown sand; containing a concrete footing made of fractured brick and rock in cement. Very abrupt, intrusive boundary to Units I, II, and Feature 2.

Unit III

a 10YR5/3 brown fine sand above wharf with 10YR5/4 yellowish brown iron oxide mottles; slightly sticky, slightly plastic. Capped by a fine band of 10YR3/1 very dark gray fine sand.

b 10YR3/1 black sand and coal dust above wharf; containing cinders, brick particles. Very abrupt, sinuous boundary to Stratum IIIc.

c1 10YR4/4 dark yellowish brown sandy rubble fill above wharf; containing small brick fragments, slate shingles, cinders, pebbles, ash. Clear boundary to Stratum IIIf1.

c2 Brick rubble above slip.

e 5YR4/4 reddish brown sand above wharf; containing bricks and brick fragments, mortar, pebbles.

f 10YR3/2 very dark grayish brown silt above wharf with 10YR4/4 dark yellowish brown sand lenses; containing small pebbles. Apparently sterile.

g 10YR4/2 dark grayish brown cinders above slip with 10YR6/1 light gray to gray ash and sand; containing coal, wood.

h 2.5YR3/4 dark reddish brown loose cinders and slag above slip; containing bricks and brick fragments.

k 10YR5/4 light yellowish brown fine sand above slip; containing a few brick fragments. Possibly discarded foundry sand.

Feature 2 -- angular diorite foundation, footings, and associated fill
7.5YR3/2 dark brown fine sand containing foundation of angular diorite; also pebbles, ash, bricks. Very abrupt intrusive boundary to Units III and IV.

Feature 3 -- trench fill

a 10YR2/1 black sand with weak platy structure; containing small

pebbles, slag.

b 10YR5/3 brown sand and rubble fill; containing slate shingle fragments, brick, sand, gravel, angular diorite cobbles, ash lenses, cinders, etc. Probably fill for builder's trench (Feature 1, Trench 3: 3 in cast iron pipe). Includes redeposited material from Units III and IV.

Unit IV

a1 10YR5/3 brown very loose sand above wharf with 10YR3/3 dark brown lenses; containing small pebbles, occasional brick flecks. Apparently dredged fill. Abrupt, wavy boundary to Feature 4.

a2 10YR5/4 yellowish brown very loose sand above slip; containing small pebbles. Apparently dredged fill. Clear, smooth boundary to Unit V.

Unit V

2.5YR3/4 dark reddish brown sand. Apparently sterile slip fill.

Feature 4 -- cribwork and ballast for Gunnison's Wharf

10YR3/3 dark brown sand; containing field stone boulders above wooden cribbing. Trunnel construction.

Unit VI

10YR2/1 black muck; containing shells, flow blue ironstone and other blue transfer ironstone sherds. Apparently slip sediment.

The earliest material encountered in this profile was Feature 1, the lowermost cribbing for a wharf identified on an 1851 map as Gunnison's Wharf. Wharves are known to have been constructed in the vicinity as early as 1680 (Coffin 1845:125), although the precise date of this construction is unknown. This wharf was built upon a wood cribbing, held together with trunnels and ballasted by heavy field stones, a construction popular in the early 19th century.

Unit VI evidently represents the most recent accumulation of sediment in the slip beside the wharf. It contains black muck and shell debris which resembles that commonly dredged from other slips along the waterfront. Within this sediment was retrieved a piece of flow blue transfer-printed ironstone, probably dating to the second or third quarter of the 19th century. The wharf was subsequently demolished to the high-water mark, and at approximately the same time the adjacent slip was filled with the sediment of Unit V. This most likely occurred in 1872, or shortly after, when the construction of the City Railroad spur across the ends of the wharves occluded the slips.

Unit IV is made up of loose, comparatively clean sands with dark lenses suggesting that this is landfill from dredged beach sediments, or some similar source. The sands are comparatively free of cultural debris, although small water-worn pieces of brick were noted in the fill. These materials appear to have been dumped here intentionally to raise the land surface well above the high-water mark.

The Unit III sediments above the wharf are assumed to be only approximately contemporaneous with those above the slip. Both areas include extensive demo-

lition refuse together with coal, slag, and ash. The ash and slag accumulations represent the industrial wastes of the late 19th century and indicate that foundry work or blacksmithing was a common activity on the waterfront at this time.

The angular diorite foundation footings of Feature 2 were constructed next, directly over the edge of the former wharf. Photographs suggest that there may have been footings for a foundry constructed ca. 1880. In the opposite wall, an intrusion into Feature 2 was noted which contained numerous whole or nearly whole bottles. The span represented by this collection can be dated, using the Newman key (T. Sell Newman 1970:70-75). Suggested dates, based on more than 100 bottles and diagnostic bottle parts follow:

2	Round based soda bottles	1860-1913
16	Clear medicine bottles	post 1880
35	Machine-made, semi-automatic	1880-1913
7	Machine-made, fully automatic	post 1903
1	Lightning stopper	1882-1915

The span implied, then, is 1903-1913. On the basis of the overwhelming preference for cork closures, the absence of crown cap closures, and the preponderance of bitters bottles, this refuse is thought to date ca. 1905. Apparently a hole just outside the foundry building was used as a bottle dump. Perhaps this occurred after the building had become defunct. The Sanborn Insurance Atlas of 1914 indicated that by that time the foundry was no longer in operation, and a city assessors map of 1922 shows that the building had been razed.

At nearly the same time as the Feature 2 was constructed, Feature 3 was dug through the old slip to accommodate the cast iron drain leading from the Custom House, which appeared in Trench 3. The Feature 3 fill is clearly a mixture of sediments from Units III and IV into which it intrudes.

Probably all but the uppermost sediments in Unit II are derived from the foundry. Slag, though present inside the building, was evidently dumped outside of the building as well, together with broken casting pieces and other refuse. A thick lens of coal within the building confirms that it was ultimately used for coal storage, as indicated on the 1914 Sanborn Atlas. The sands in the upper part of Unit II, however, may be associated with the razing of this building and preparation for new construction. Note that there is no major brick rubble accumulation from the demolition of this building, such as is encountered repeatedly along the waterfront at other sites. Photographs indicate that this foundry was framed in steel and wood.

The final construction above the wharf is represented by Feature 1, a building with a concrete foundation and pad. This was evidently the single-story concrete block structure used for construction equipment storage which was demolished recently as part of the renewal project. The concrete for the footings included refuse rock and brick, with no other reinforcement. Brick pillars were evidently spaced at even intervals along the side of the building for structural support, as could be seen from the remnant pads exposed on the surface along the side of this foundation. The pattern on a piece of linoleum found in the builder's trench for the building footings suggests that it was probably built in the 1920's, while the imitation dressed stone cement blocks which are evident in photographs suggest a pre-1940 date.

The rubble in Unit I may derive, in part, from the demolition of this latest building, but also includes much of the remnants of the junkyard which, until redevelopment, occupied the area above the slip and immediately behind the Custom House. A thin layer of gravel at the top of this unit provides a temporary parking surface.

The following facts can be inferred from the sequence and supporting information:

1. Gunnison's Wharf, constructed with wooden pegs, dates prior to 1850.

2. The wharf was subsequently demolished down to the low-tide mark, removing all superstructure.

3. At the same time or shortly thereafter, the adjacent slip was filled in. The most probable date for this filling is 1872, during or after construction of the City Railroad spur.

4. For some time the area was used as a dump site for foundry and blacksmithing wastes, especially coal, ash, and slag.

5. A frame foundry was built here in the latter part of the 19th century, immediately over the edge of the former wharf. This building was demolished between 1914 and 1922.

6. At about the same time, the foundry was built, a cast iron drain was installed in the fill of the adjacent slip (see Trench 3). As has been noted, this was probably necessitated by the railroad and coal pocket construction of 1872 which obstructed the former drainage path from the Custom House.

7. In the 1920's or 30's the foundry was replaced by a single-story concrete block structure used for storing heavy construction equipment.

Areal Excavations

Area 1 -- Merchant's Row (Fig. 3.10, p. 42)

Area 1 is a 2 m by 6 m trench oriented approximately east-west. The eastern 4 m of the trench samples the Merchant's Row complex at the partition between stores 3 and 4, owned in 1811 by John Greenleaf and A. and E. Wheelwright (Gilman and Gilman 1811). The western 2 m of the trench samples the public access to Ferry Wharf, in front of the Wheelwright and Greenleaf stores.

Unit I
10YR5/3 brown (dry) coarse beach gravel fill; containing television parts, radios, bricks, wood, plastic, cotton cord tires, etc. Very abrupt, smooth boundary to Unit II; abrupt, smooth boundary to Feature 1.

Feature 1 -- cast iron drain, water pipe, and associated fill beside stores
10YR3/3 dark brown coarse sand; containing mortar, brick fragments, angular cobbles, and a chert (Normanskill type) projectile point.

Unit II -- Basement accumulation, store no. 4
a 2.5Y4/2 dark grayish brown medium sand. Apparently sterile.

b 10YR2/1 black coal; containing coal, coal dust.

c 10YR3/3 dark brown medium sand with 10YR2/1 black coal mottles.

d 10YR5/2 grayish brown fine sand and rubble, with 5Y4/1 dark gray clods of clay; containing bricks, brick fragments, wood, mortar, etc. Demolition debris after fire of 1811.

e 10YR5/1 gray medium sand and ash.

Very abrupt, smooth boundary to wooden plank floor and Feature 3a.

Feature 3a -- store 4 basement construction and waterproofing
a 5Y5/1 gray (wet) clay; plastic, sticky. Apparently sterile. Intended as a water barrier underneath the plank flooring and in the space between the baseboards and the outside walls.

b 5Y3/1 very dark gray (wet) coarse sandy gravel; containing small rounded pebbles.

Very abrupt boundary to bedrock.

Unit II' -- Outdoor accumulation, stores 3 and 4
a 10YR4/3 brown to dark brown fine sand; very loose; containing bricks, brick fragments, small angular cobbles.

b 10YR3/3 dark brown medium sand with 10YR2/1 black coal mottles.

Very abrupt, smooth boundary to Feature 2 and Unit III.

Feature 2 -- builder's trench for store 3 foundation extension
10YR4/4 dark yellowish brown coarse sand; containing small pebbles, brick fragments, a chert projectile point (Normanskill type) and a chert biface. Very abrupt, intrusive boundary to Units III and IV.

Unit III

a 10YR4/4 dark yellowish brown coarse sand with small 10YR3/2 very dark grayish brown mottles; containing small pebbles.

b 10YR3/2 very dark grayish brown sand lens; containing mortar, brick fragments. Also contains a half-penny (George I. Hibernia type) minted between 1722 and 1724.

c 10YR4/3 brown to dark brown coarse sand; containing brick particles, small pebbles.

d 10YR5/4 yellowish brown fine sand with 10YR3/1 very dark gray to 10YR5/2 grayish brown silty clay mottles; loose. May represent backdirt from Feature 3b construction.

e 10YR4/3 brown to dark brown coarse sand containing small pebbles.

f 10YR3/2 very dark grayish brown fine sand lens.

Very abrupt, smooth boundary to Feature 3b and Unit IV.

Feature 3b -- water barrier for store 4 foundation

a 10YR3/1 very dark gray fine sand; containing decayed wood.

b 10YR4/1 dark gray silty clay; slightly plastic, slightly sticky.

c 10YR2/1 black sand and decayed wood.

Very abrupt, smooth boundary to Unit IV.

Unit IV

a 10YR2/1 black silt loam; containing burned wood, small angular pebbles.

b 10YR3/3 dark brown coarse sand; containing small pebbles. Also contains an argillite projectile point (Otter Creek type).

c 2.5Y4/2 dark grayish brown silt loam with 10YR3/3 dark brown coarse sand mottles; slightly plastic, slightly sticky.

Very abrupt boundary to bedrock.

The lowest stratum of Unit IV shows mottling from the stratum above, suggesting a stratigraphic inversion. It is quite likely that some or all of this unit represents backdirt excavated in the construction of the store 4 foundation. In this disturbance was found a large Otter Creek projectile point, clearly out of its aboriginal context.

The natural slope of the bedrock in this location would tend to channel all sub-surface water and runoff from the surrounding uplands directly into the basement. To counteract this effect, a clay seal, Feature 3b, was installed. This was a sandwich of clay between layers of wood, sloping away from the foundation. The basement structure itself, leveled on the bedrock by a layer of gravel, was protected from a rising water table by a similar layer of clay beneath the flooring and along the base of the interior walls.

The sediments of Unit III accumulated during the 18th century, apparently after the first structure on the store 4 foundation was built. A George I halfpenny, minted between 1722 and 1724, was found in one of these sediments. Considering the associated ceramics and glass, it was probably placed there in the last quarter of the 18th century. Prehistoric artifacts are absent from this unit.

Feature 2 intrudes into Unit III on the north side of the pit, and represents the construction of an addition onto the north end of the Merchant's Row complex which included store 3. A builder's trench was dug here for the extension of the stone foundation, and in the process, the clay seal of the earlier foundation was broken. No similar attempt at waterproofing was made in building the store 3 foundation. The backfill of the construction trench includes a Normanskill projectile point and a small biface, both of chert.

Both buildings were in existence at the time of the Great Fire of 1811, according to the list of damaged property recorded by Gilman and Gilman (1811). This fire severely scorched flooring and floor joists of the store 4 basement, and caused substantial ash and brick rubble accumulation. The basement floor was resurfaced, this time merely with sand, and the area was apparently used through the rest of the 19th century as a coal bin. A final layer of sand was deposited, and the floor may have been used still later for storage of some sort.

Outside, on Ferry Way, there seems to have been little accumulation after the 1811 fire. The stratigraphic record is confused, however, by the recent razing of these buildings, in which some of the sequence may have been removed. In any case, coal seems to have been stored or unloaded here. The water pipe and cast iron drain of Feature 1 intrudes into the entire profile. These services were installed no earlier than 1885, and probably date to ca. 1900. Within the trench fill is a second Normanskill projectile point, also out of context.

The overburden removed in Unit I contained refuse from the most recent use of Merchant's Row. At the time of demolition these buildings were used as a warehouse by the Knight family who operated Knight's Grain in the adjacent Ferry Wharf Building. The radio and television debris proved to be used items taken in trade by Richard Knight, who maintained a radio-television repair business several blocks away on Unicorn Street.

Although the cutting and filling record of the way is complex, as backdirt was shifted back and forth from one area to another during different phases of construction, the general sequence of events is clear:

1. On this site once stood a substantial aboriginal Indian site, having at least two occupations during the Late Archaic period. All the prehistoric artifacts were found in disturbed contexts, as might be expected

in an urban waterfront. The chances of finding significant undisturbed areas of aboriginal habitation here are quite slim.

2. Store 4 was constructed upon bedrock during the 18th century. The area outside the foundation was backfilled and landscaped to counteract the slope of the bedrock in anticipation of a drainage problem. Similarly, the interior of the basement was completely lined with clay.

3. One or more additional bays were added to the north end of Merchant's Row at this location--probably in the last decade of the 18th century. The store 3 foundation construction shows no evidence of waterproofing, probably because the clay seals in the earlier building proved ineffective.

4. Merchant's Row burned in the fire of 1811, and although some of the superstructure may have survived, the building was essentially gutted. Erosion of the clay around the baseboards suggests that the roof was open to the elements for a period.

5. The basement was partially filled in the reconstruction of the store 4, and coal stored on the new surface.

6. Water and sewage utilities, installed after 1885, did considerable damage to the stratigraphic record along Ferry Way, and intruded into the aboriginal site which was once here.

7. The remains of the Merchant's Row complex were razed ca. 1970, and the basement filled with demolition rubble. This debris included radio and television parts then warehoused in Merchant's Row by the Knight family, owners of Knight's Grain and a radio and television repair business.

Area 2 -- Gunnison Annex and Way (Fig. 3.21, p. 57)

The Gunnison excavation is an L-shaped trench which tests a former annex of the present Gunnison Building and the private way on which it fronted. A 3 m by 6 m trench runs along the way, while an adjacent 3 m square samples the interior of the annex.

Unit I -- pavement base
10YR4/2 dark grayish brown sandy gravel; containing water-rounded pebbles, brick fragments. Paving base for macadam (removed). Very abrupt, smooth boundary to Unit II.

Unit I' -- building fill
10YR4/3 brown to dark brown gravel and rubble. Very abrupt, angular boundary to interior brick partition.

Unit II
10YR2/1 black sand; containing angular granite and diorite (crushed rock paving), coal, brick, shell. Abrupt, smooth boundary to Features 1, 2, 3, and Units III and III'.

Feature 1 -- fuel pipe trench fill
10YR3/2 very dark grayish brown sand; containing brick fragments. Abrupt, intrusive boundary to Units III' and IV, and very abrupt boundary to bedrock.

Feature 2 -- water and gas lines and associated trench fill
10YR2/1 black sandy gravel; containing angular and rounded pebbles, brick fragments. Abrupt, intrusive boundary to Unit III and very abrupt boundary to bedrock.

Feature 3 -- foundation trench and later intrusion
10YR3/2 very dark grayish brown sand with thin 10YR3/3 dark brown bands; containing angular and rounded pebbles, brick particles. Indistinct intrusive boundary to Unit IV and very abrupt boundary to bedrock.

Unit III

a 10YR4/3 brown to dark brown sandy gravel; containing bricks, brick fragments, water-worn pebbles and cobbles, polychrome pearlware.

b1 10YR3/1 very dark gray sand with 10YR7/1 light gray mortar; containing coal, mortar, bricks, brick fragments.

b2 10YR3/2 very dark grayish brown sand; containing bricks, brick fragments, mortar, coal, ash.

c1 10YR3/2 very dark grayish brown sand; containing bricks, gravel lenses.

c2 10YR3/3 dark brown sand with frequent 2.5Y5/4 light olive brown, 2/5YR4/6 red, and 10YR2/1 black mottles; slightly plastic, slightly sticky. Occurs in cracks in bedrock.

Very abrupt, smooth boundary to Unit IV and bedrock.

Unit III'

a1 2.5Y3/2 very dark grayish brown sand with 2.5Y3/0 very dark gray fine bands.

a2 10YR3/1 very dark gray fine to coarse sand; containing bricks, brick fragments, coal, large rounded pebbles, wood.

b1 2.5YR3/4 dark reddish brown sand; containing bricks, brick fragments, small rounded pebbles and cobbles, slate roofing.

b2 7.5YR4/4 brown to dark brown sandy fill; containing iron oxide, brick particles.

Abrupt, smooth boundary to Unit IV.

Unit IV

a 10YR3/1 very dark gray sand with 2.5YR3/6 dark red mottles; containing pebbles, cobbles, brick fragments, clay pipestem, window glass, heavy creamware.

b 2.5YR2/2 very dusty red sand; containing small brick particles, coal, charcoal flecks.

The apparent simplicity of these profiles is deceptive, for the sediments which conform to bedrock are of quite different age. The earliest sediments, Unit IV, may date as early as 1750, considering ceramics and glass specimens which have been found here. The mottling of these sediments suggests that they have been disturbed, but since overlying sediments conform evenly to this unit, the disturbance was itself probably of 18th century origin. An exception is Feature 3, an excavation which seems to intrude into Unit IV, but is not clearly distinguished from it. Feature 3 was probably part of the initial builder's trench for the annex foundation, but has apparently been partially re-excavated later in the 19th century.

The total accumulation in Unit IV is not great, and is confined to the lower lying areas and pockets in the bedrock. In the 18th century much of the bedrock ledge was still exposed, as references to this "Great Rock" are common in the early property descriptions (Coffin 1845:61). In fact, little significant accumulation is preserved at least until the beginning of the 19th century. Unit III' is stained heavily with iron oxide, and probably represents rusted iron filings from blacksmithing or machining waste. Slag and cinders, however, are notably absent. This oxide is probably too far away from the foundry discovered in Trenches 3 and 4 to have been derived from it. Slate roofing and associated building demolition date this deposit after 1840.

Unit III accumulation may have begun somewhat earlier than that of Unit III', as several pieces of ceramics and bottle glass were found which would date to the period 1800 to 1830. The earliest stratum, IIIc, included fine sediments which were transported into the remaining cracks and low areas of the bedrock by surface runoff. Above this is a sequence of gravel pavement, coal, and demolition debris. The coal probably stems from the middle to late 19th century, when the property immediately to the west was used as a coal pocket. Passage from the yard to the weigh scales undoubtedly followed this private way.

During the first half of the 19th century, at least two separate structures have been known to occupy the area on which the Gunnison Building now stands. The upper floors of the Gunnison Building itself have been gutted at least twice in the second half of the 19th century. While these disasters undoubtedly account at least in part for the building debris encountered in the way, it is impossible to associate the demolition layers with any particular structure.

Intruding into Units III and III' are a series of late 19th to early 20th century utilities, showing no stratigraphic separation. At least two sets of water pipes were installed. The smaller, and probably earlier pipe, was boxed in wood, probably to keep it from freezing, because it was installed above bedrock within 25 cm of the surface. A second 1 in pipe, installed with this water line, may have been for gas. A larger 2 in main probably was more effective in conserving heat, and was not boxed. Apparently none of these lines went to this portion of the annex.

A fuel line enters the annex basement, near an abandoned coal bin. Feature 1 is presumed to mark the route of this pipe and leads into an area recently covered by a small frame shed, immediately south of the Gunnison annex. This shed probably housed the fuel tank, as bedrock made it impossible to place it beneath the surface. Part of the pipe was evidently ripped out when the shed was demolished.

Feature 3a was a layer of bricks set neatly on top of the ground surface to suppress weed growth in front of a basement window. The window itself was subsequently bricked up, and the building renovated, apparently to accommodate a large garage door visible in recent photographs of the annex. A paving of brick rubble was aligned in front of this new door in Unit II. All of the way was covered by macadam pavement by World War II or shortly thereafter.

In sum, the following events are implied:

1. An 18th century structure was built on a stonework foundation west of a "Great Rock," one of several such early landmarks on the waterfront. Household refuse was found in association with this foundation, but no manufacturing waste was found in later sediments. Some of the refuse is sufficiently recent to suggest that this structure was in use until the fire of 1811. Property descriptions suggest that this may have been the foundation of an outbuilding associated with the residence of Enoch Toppan.

2. The original foundation was reused in at least one later construction, a small two-story brick wing of the Gunnison Building. The brickwork at the corner of the Gunnison Building shows that the annex and the main building were constructed at the same time, bracketed by historic evidence between 1840 and 1850. The wing does not conform ideally to the original foundation and it was necessary to install an interior bearing wall to support the floor joists across the span to the main building. The space between the outer wall and the partition was used as a coal bin.

3. The area outside the building at this time shows a great build-up of iron oxide stains, as does the remaining coal stored within the annex basement. One likely explanation is that this is rusted iron dust from grinding iron castings or similar machine work. Filings may have settled in the basement, having seeped through the rough plank flooring above, or having washed in through the foundation. Quite probably the building first saw use as a machine shop or fabrication shop of some kind, continuing in this capacity for most of the 19th century.

4. At about this same time, the adjacent way was paved in gravel, and shows an accumulation of coal dust from the adjacent coal pocket. Water and gas utilities were installed after 1885, and replaced at least once thereafter.

5. In the second or third decade of this century a fuel line was installed, and the coal bin was abandoned. The fuel tank was probably housed next door in a small shed built for it, as it would have been too big for the basement, and could not have been buried elsewhere because of the shallow depth to bedrock.

6. The cellar window was bricked up at about this time, and a wide garage door was installed above it. A rude paving of brick rubble was placed outside this door. Some fragmentary house furniture, both leather and iron, suggest that the annex was used briefly as a stable. Later car parts suggest that the building served, at least in part, for automobile repair, storage, or salvage.

7. The way was paved with macadam in the 1940's or shortly afterwards. By 1976, the annex was demolished.

Area 3 -- Granger (Fig. 3.16, p. 51)

The Granger excavation samples the south end of the same way tested in the Gunnison excavation. It also exposes an area to the west of this way, which was used in the last three quarters of the 19th century by George T. Granger and numerous successors first as a lumber yard and later for cordwood and coal storage. The two 2 m by 5 m trenches of this L-shaped excavation are sharply divided by a foundation thought to be the eastern support for a mid-19th century weigh scale. A single structure was found in the north-south trench which parallels the outside of this wall. Two more structures were revealed in the remaining east-west wing.

Unit I

a 10YR5/3 brown (dry) sandy silt; slightly plastic, slightly sticky. Base for adjacent brick sidewalk and lawn.

b 10YR4/2 dark grayish brown medium sand; containing rounded pebbles, brick, coal, roofing slate, crushed rock. Base for macadam surfacing above.

Very abrupt, smooth boundary to Units II and II', and Features 1-5.

Feature 2 -- utility pipes and associated trench fill

10YR4/2 dark grayish brown coarse sand with small 10YR5/4 yellowish brown and 10YR2/1 black mottles; containing slate roofing, brick fragments, small pebbles. Very abrupt, intrusive boundary to Unit II.

Feature 3 -- main utility trench and fill (see Area 2, Feature 2)

10YR4/3 brown to dark brown coarse sand; containing fine lenses of rounded and angular cobbles and pebbles, brick fragments, charcoal, ash, shell, pipestems, window and bottle glass. Very abrupt, intrusive boundary to Units II, III and IV; very abrupt, smooth boundary to bedrock.

Unit II -- way surfaces

a 10YR5/4 yellowish brown coarse sand; containing coal fragments, coal dust.

b 10YR3/1 very dark gray medium sand; containing brick particles, coal dust, small rounded pebbles.

c 10YR2/1 black to 10YR3/1 very dark gray sand; containing coal fragments, coal dust.

d 10YR5/4 yellowish brown coarse sand; containing small and large pebbles.

e 10YR4/3 brown to dark brown coarse sand; containing brick fragments, brick particles, rounded and angular pebbles.

f 10YR4/4 dark yellowish brown sandy gravel. Apparently sterile.

Very abrupt, smooth boundary to Unit III.

Unit III -- fill beneath way surfaces

a 10YR5/4 yellowish brown medium sand with 10YR6/6 brownish yellow mottles and lenses.

b1 10YR4/3 brown to dark brown coarse sand with 10YR3/2 very dark grayish brown coal and ash lenses; containing angular cobbles.

b2 10YR4/2 dark grayish brown sand with 10YR7/2 light gray ash lenses; containing charcoal fragments, hand-forged nails, melted window glass, etc.

Very abrupt, smooth boundary to Unit IV and Feature 6.

Feature 6 -- scattered foundation remains of Boardman building.
Granite dry stone masonry. Abrupt boundary to Unit IV.

Unit IV

a 10YR3/2 very dark grayish brown sandy loam; slightly plastic, slightly sticky; containing large angular granite cobbles (foundation rubble), brick, brick fragments.

b 10YR3/2 very dark grayish brown sandy loam; slightly plastic, slightly sticky. Lacking brick and granite debris.

Very abrupt, smooth boundary to bedrock.

Feature 1 -- intrusion for Graf Trucking Terminal footings

a1 10YR4/3 brown to very dark brown sand; containing rounded pebbles, coal, tar paper, brick, granite building rubble.

a2 10YR4/3 brown to dark brown sand; containing rounded pebbles, wood fragments.

a3 10YR4/2 dark grayish brown sand; containing brick, brick fragments, small pebbles.

Abrupt, intrusive boundary to Features 4 and 5.

Feature 4 -- coal office foundation
Mortared field stone masonry.

Very abrupt contact with bedrock.

Feature 5 -- weigh scale foundation
Mortared field stone masonry.

Very abrupt contact with bedrock.

Unit II'

a 10YR3/2 very dark grayish brown sand with 2.5Y5/4 light olive brown sand lenses; containing brick fragments, charcoal, angular and rounded pebbles.

b 2.5Y3/2 dark grayish brown ash with 2.5Y5/4 light olive brown

sand lenses; containing ash, coal, clinkers, bricks, brick fragments, angular and rounded pebbles.

Very abrupt, smooth boundary to Unit III'.

Unit III'
10YR2/1 black sand; containing coal, coal dust, angular granite cobbles. Very abrupt, jagged contact with bedrock.

Because the excavation is partitioned by the high wall of the supposed weigh scale, the stratigraphic records to either side of this division must be discussed separately.

The western wing of the trench has yielded by far the earliest strata. The bedrock surface here was probably first covered by cultural refuse in the second quarter of the 18th century. This is the same outcropping excavated in the Gunnison pits, referred to in early records as a "Great Rock." Unit IV contains abundant household refuse of glassware, ceramics, and bone which apparently date no later than the 1760's. Upon this unit was built a dry granite foundation, Feature 6, the southeastern corner of which was revealed by our excavation. Only the largest foundation stones remain of this structure, the rest having evidently been salvaged for some later construction.

Unit III contains in its lower levels the charred demolition refuse and melted glass of the Feature 6 building. It is likely that this is a building which belonged to Offin Boardman in 1811 (Gilman and Gilman 1811; ECPC 2717) when the Great Fire demolished all buildings in this area. The upper strata of Unit III show extensive mottling, and include finely broken ceramics and glass dating to the late 18th or early 19th century. This is deliberate fill, which extends both inside and outside the foundation, and which has substantially elavated the ground surface.

The sediments of Unit II show a continuous series of sand and gravel pavings, interspersed with thin layers of coal and coal dust. This represents the paving of the way leading to the rear of the Gunnison Building and to the lumber yard, later a coal pocket. Historically, this 20-ft-wide way is known to have been laid out at this site by 1813 (ECRD 202:48 and 203:73).

The clean sand rubble of Unit I is a recent 20th century accumulation, and forms the base for a macadam paving which covered this site until removed for our excavation. Therefore the pipe trench, Feature 3, which is intrusive into Unit I, is also quite recent, and must be the utility service for the Graf Bros. Trucking terminal, shown in plan and in Feature 1. The pipe trench connects with earlier utility mains running along the way, Feature 3. These are probably the same lines revealed in the Gunnison excavation (Area 2, Feature 2).

The high bedrock on the western wing of the excavation probably remained clear of cultural refuse well into the 19th century. The earliest accumulation, Unit III', is a layer of sand and coal dust, and probably dates well after the fire of 1811, as does Feature 5 with which it is associated. Feature 5 is actually located at least 7 ft within the limit of the private right-of-way which has been reserved here since at least 1813 and which remained in use until the current redevelopment of the waterfront. It is presumed, then, to be the weigh scale used by Newman Brown's coal yard (NCD 1869) and by subsequent establishments, a structure which would not have impeded the way. Note that

the upper part of this structure extends just above the level of the contemporaneous mid-19th century pavements. These scales still appear in photographs of the area taken in 1913.

Unit II' sediments are more recent than the weigh scale foundation, and are associated with the construction of the "new" coal office of H.H. Cross (NCD 1874). Note that this new building fronted directly on Water Street, slightly in front of the weigh scale foundation. The ash fill around the southeast corner of this foundation contains many examples of white ironstone china, one of which has a British registry mark dating manufacture to January 5, 1856. Note that the construction of this new coal office, together with later construction, has obliterated any trace of buildings which were formerly located on this site. The demolition materials found within Feature 4 show the asphalt and tin roofing of this building, together with fragments of green window sashes.

The most recent, and most damaging intrusion is, of course, the reinforced concrete foundation and footings of the Graf Bros. Trucking Terminal, built in 1949. The construction trench cut through both the coal office and the weigh scale foundations, removing all sediments down to bedrock. The demolition refuse from this building, razed for redevelopment, has apparently been removed from the site. A new brick sidewalk and lawn has been placed above the level of the asphalt on the street side of the excavation, represented by Unit I.

The following chronology can be derived from this stratigraphic sequence:

1. This area of Water Street was settled and household refuse discarded on the "Great Rock" by the second quarter of the 18th century.

2. A frame building was constructed on a dry masonry wall later on in the 18th century. This way probably the residence and store mentioned in the Timothy Greenleaf estate (ECPC 11816), a building which eventually passed to Captain Offin Boardman, a Revolutionary War hero. In 1811, Boardman's property and all surrounding buildings were destroyed in the Great Fire.

3. The Boardman house foundation was scavenged for building stone, and the area extensively filled, apparently to level the area over the "Great Rock."

4. A 20-ft-wide way was surveyed following the fire, to provide access to new buildings constructed shortly thereafter. A series of gravel pavings rapidly accumulated along this way.

5. By the third quarter of the 19th century a weigh scale had been constructed, a portion of which extended into the right-of-way.

6. A coal office, known from photographs and lithographs to be the most recent of a series of at least three such buildings, was built adjacent to the way ca. 1872.

7. The coal office was demolished by 1949 and replaced by the Graf Bros. Express truck terminal, a large, one-story concrete building. This in turn was razed for recent redevelopment of this area.

Area 4 -- Watkins (Fig. A.3)

The Watkins excavation was selected to probe a small area behind the Ferry Wharf Building, an access which appears vacant on all 19th century maps of Newburyport. The main trench was placed across this alley to sample buildings on either side. This trench was laid out at a 45° angle to the presumed alignment of known foundations in order to gain a larger sample of the alley and unknown structures which might have existed beneath it. This strategy proved quite successful, for the trench revealed at least five separate constructions. The sections of these foundations and features, however, were severely distorted as a consequence of this strategy. The effects of angular sectioning were exaggerated by the slope and undulation of the trench walls, for these loose, unstable sediments often required pedestals or buttresses. Therefore, the field profiles have been corrected by projection to represent sections taken at right angles to the foundations. Great care was taken to preserve the relative positioning of these sediments, and to present them at the same vertical scale used in the field.

The main trench, measuring 2 m by 7 m, extended to a depth of 2.4 m, well below the water table. A wedge-shaped area, 7.5 m^2, was added on the southeast side of the trench to trace the perimeter of a granite foundation previously discovered. The question was soon solved, and excavation in this area was discontinued at a depth of only 0.6 m. Our stratigraphic information, then, comes from the main trench. Two profiles are represented here. The first is a north-south section of the open area at the southeast corner of the Merchant's Row complex, designated Zone A in plan (Fig. 4.1, p. 63). The second runs east-west, across a narrow alley, Zone B, into a foundation and basement fill, Zone C.

Section 1

Unit I

10YR5/4 yellowish brown gravel. Recent gravel paving. Abrupt, smooth boundary to Unit II.

Unit II

a1 10YR5/4 yellowish brown gravel; containing rounded pebbles, shell. Redeposited fill.

a2 10YR7/2 light gray mortar lens; containing bricks, brick fragments, slate roofing, plate glass, etc.

Abrupt, smooth boundary to Unit III.

Unit III

a 10YR4/2 dark grayish brown sandy cinders; containing occasional brick fragments.

b1 10YR4/2 dark grayish brown fine sand; slightly plastic, non-sticky; containing slate, brick fragments, etc.

b2 10YR5/6 yellowish brown fine sand; very loose; containing many bricks, brick fragments. Lens within Stratum IIIb1.

Abrupt, smooth boundary to Unit IV.

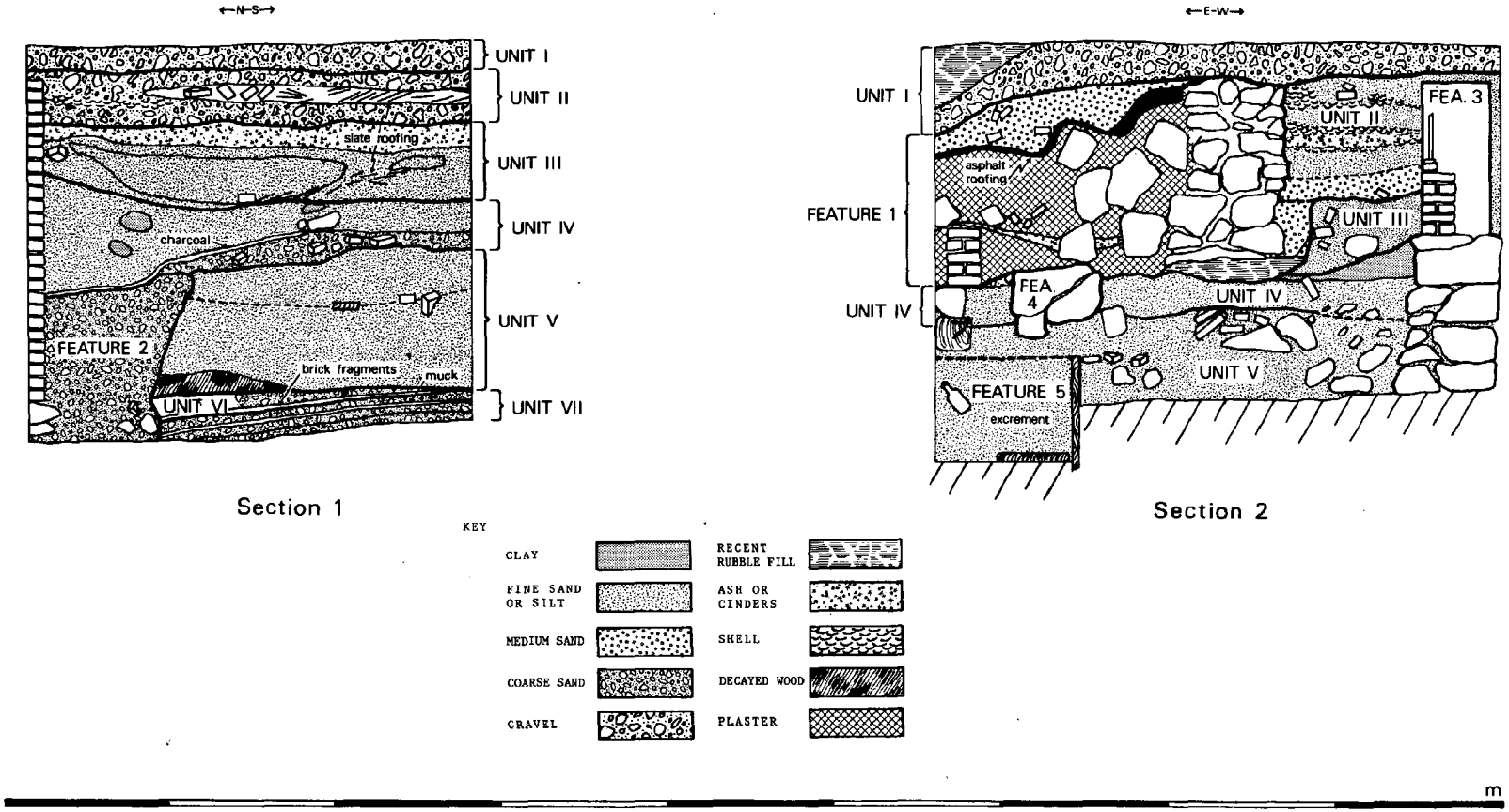


Fig. A.3. Profiles from Area 4 walls corrected to represent hypothetical sections 1 and 2, Fig. 4.1, p. 63. Key features of Section 1 are cove sediments and early 18th century demolition refuse (Units VII and VI), the Merchant's Row foundation trench (Fea. 2), and evidence of fire, possibly the 1811 holocaust (Unit IV). Section 2 shows the Hale-Watkins privy (Fea. 5), the footings of a small, late 18th century outbuilding (Fea. 4), the Merchant's Row foundation and basement opening (Fea. 3) and the boardinghouse foundation and cellar (Fea. 1).

Unit IV

a 10YR3/2 very dark grayish brown fine sand with frequent 5Y5/1 gray clay clod inclusions; slightly plastic, non-sticky; containing water-worn pebbles, extensive bone debris.

b1 10YR2/1 black burned wood lens, 1 cm thick. Stains from this lens occur on the exterior of the brick foundation, Feature 2.

b2 10YR4/3 brown to dark brown coarse sand; containing bricks, brick fragments.

Very abrupt, smooth boundary to Unit V and Feature 2.

Feature 2 -- Merchant's Row store no. 6 foundation and associated trench
10YR4/2 dark grayish brown coarse sand; containing bricks, brick fragments, pebbles, cobbles, glazed red earthenware. Very abrupt, intrusive boundary to Units V and VI.

Unit V

a 10YR4/2 dark grayish brown sand with 2.5Y5/4 light olive brown fine sand mottles; containing charcoal flecks. Gradual, smooth boundary to Stratum Vb1.

b1 10YR4/2 (wet) dark grayish brown silty sand; slightly plastic, non-sticky; containing extensive bone, bricks, brick fragments, pebbles, cobbles, glazed red earthenware.

b2 10YR3/2 very dark grayish brown (wet) silt loam and decomposed wood; plastic, slightly sticky; contains decayed wood fragments, wood chips, wood plank construction scrap, mortar, brick fragments.

Abrupt, smooth boundary to Unit VI.

Unit VI

a 5Y3/2 dark olive gray (wet) coarse sand containing small pebbles; very loose. Apparently sterile.

b 5YR4/4 reddish brown (wet) brick fragments; containing brick particles, wood fragments.

Abrupt, smooth boundary to Unit VII.

Unit VII

a 10YR3/2 very dark grayish brown (wet) coarse sand. Apparently sterile.

b 10YR2/1 black (wet) fine to medium sandy loam with fine bands of 10YR3/2 very dark brown coarse sand; slightly plastic, non-sticky; containing dark organic matter. Apparently sterile. Stratum slopes gradually down towards the river channel.

The finely banded sediments of Unit VII are surely accumulations within a lowland area. This is probably the tidal area mentioned as a "cove" in the original grant of this property to Captain Paul White in 1655 (Currier 1896:152).

The gradual slope of sediments toward the Merrimack River suggests that here was a beach; the high tide mark was probably not far to the south. While it is not possible to say categorically that these sediments are sterile even of historic materials, it is clear that the land surface was waterlogged and was not suitable for habitation until filled sometime in the early 18th century. A recent suggestion that the trader Watt built a cellar here in the 17th century (Harris 1977:26) is probably incorrect, as this lowland location would have been quite inappropriate for storage.

Unit VI represents the early 18th century demolition of a structure which may have stood nearby on the edge of the flats. The remains appear here only as a fine lens of water-rounded brick particles. These sediments also reflect the gentle slope of the shoreline.

Unit V sediments show a rapid and extensive accumulation of debris in the lowlands. The lowest of these sediments contains construction refuse: scraps from squaring the ends of 1 in sawed planks, wood chips from adzing beams, and brick scraps. Surely some new structure was built nearby. The construction and demolition debris is covered by a heavy accumulation of refuse, dominated by bones of butchered livestock--sheep, swine, and cattle. The associated glassware and ceramics suggest that this is household or victualer's refuse, rather than butcher's waste. Diagnostic artifacts from this stratum date between 1740 and 1770.

Feature 2, the builder's trench for the foundation of store 6, Merchant's Row, intrudes into this accumulation of trash, and the footings for this new building were placed on the earlier shoreline sediments. Fill for this trench includes pearlware ceramic types, popular ca. 1800. Above the builder's trench, at the bottom of Unit IV, are layers of brick demolition and burned wood, likely the result of damage during the Fire of 1811. The associated ceramics, which include some blue transfer and shell-edge pearlware are chronologically consistent with this interpretation.

The uppermost stratum of Unit IV is unusual in that it probably represents a stratigraphic inversion, resulting from the addition of stores 7 and 8 to the south end of Merchant's Row. This fill is extensively mottled with a clay similar to that used to seal the foundation at the other end of Merchant's Row, at store 4 (Area 1). A similar feature appears in Section II of this excavation. It is likely that in excavating the foundation for the southern addition, an early clay seal was broken into, as happened in Area 1 when the store 3 addition was built. A 1732 Britannia half-penny and some early 18th century glassware, associated with this fill, are probably out of place, and support the view that this is backdirt. Also found here were fragments of a diamond-paned casement window, possibly from the structure represented in Unit VI. There is no historic evidence for the existence of this southernmost annex until ca. 1820.

Accumulations which occurred after the annex construction have been obliterated by 20th century land clearing. Unit III represents the first of these, the razing of one bay of the annex (store 7) and an adjacent bay of the original Merchant's Row complex (store 6). According to photographs and former property owners, these buildings were torn down shortly before 1949 to provide access to the new Graf Bros. Truck Terminal, constructed on the large parcel to the east of Merchant's Row. Unit III debris consists of bricks, mortar,

wood, and slate roofing. This was mixed with coil cushion springs, and modern bottles and glassware and other refuse. A cinder pavement was then provided for the terminal access. Note that a portion of the Merchant's Row foundation may have remained partially exposed along this access. Unit II, which follows, contains similar brick and slate roofing debris, and represents the recent demolition of the remaining Merchant's Row buildings. A temporary gravel paving, Unit I, covers the entire area.

Section 2

Unit I

a 10YR3/2 very dark grayish brown sandy rubble, containing bricks, coal, clam shell. Clear, smooth boundary to Stratum Ib.

b 10YR5/4 yellowish brown gravel; containing rounded pebbles. Recent fill.

Very abrupt, smooth boundary to Feature 1 and Unit II.

Feature 1 -- granite foundation, cellar, and associated fill

a 10YR3/2 very dark grayish brown sand; containing bricks, plaster, bottle fragments, awning parts, coal, mortar, wood. Abrupt, wavy boundary to Feature 1b.

b 10YR2/1 black asphalt composition roofing paper and roofing boards. Roofing inverted in demolition. Very abrupt, wavy boundary to Feature 1c.

c 10YR6/3 pale brown plaster; containing blue painted plaster, plate glass, bricks, wood lath, wire nails.

d 7.5YR4/0 dark gray burned coal and shale clinkers; containing bricks, shell, clear bottle glass, bone. Clear, smooth boundary to Feature 1e.

e1 10YR6/3 pale brown plaster; containing occasional brick fragments, clam shell, charcoal, coal, plate glass, ironstone china.

e2 10YR3/2 very dark grayish brown sandy rubble.

e3 10YR3/2 very dark grayish brown sand; containing bricks, shell, glass, flowerpot base, blue transfer ironstone china.

e4 10YR3/3 dark brown sand; containing clay mottles, coal, mortar, bricks.

Very abrupt, intrusive boundary to Units III and IV and Feature 4.

Unit II

a1 10YR4/2 dark grayish brown fine sand; containing shell lenses, bone, brick fragments, roofing slate, charcoal traces. Gradual, smooth boundary to Stratum IIb.

a2 7.5YR4/2 brown to dark brown ash and shell lens.

b 10YR3/2 very dark grayish brown sand; containing brick particles, slate roofing, glass, coal, copper wire.

Abrupt, smooth boundary to Unit III; clear boundary to Feature 1.

Unit III

a1 2.5Y5/4 light olive brown silt lens; containing bricks, brick fragments.

a2 10YR3/3 very dark grayish brown sandy loam; containing brick fragments, charcoal, bone, stoneware bottle.

Abrupt, smooth boundary to Unit IV.

Unit IV

a 5Y5/1 gray clay; plastic, slightly sticky; containing bricks, rounded pebbles, brown stoneware bottle fragment.

Unit V

a 10YR3/1 very dark gray (wet) sandy clay loam; slightly plastic to plastic, non-sticky to slightly sticky; containing extensive bone, small hand-made bricks, brick fragments, red glazed red earthenware, wood fragments, decayed wood.

a2 10YR3/1 very dark gray (wet) sandy clay loam; slightly sticky, containing bone, decayed wood, twigs, wrought iron trap.

Abrupt, smooth boundary to Feature 5.

Feature 5 -- wood-framed privy and contents

10YR3/1 very dark gray (wet) excrement with 10YR7/3 very pale brown, 10YR3/4 dark yellowish brown, and 5Y3/2 dark olive gray mottles; slightly plastic, non-sticky; containing window glass, creamware china setting, wine bottles, pharmaceutical vials, lime or ash, corn cobs, etc. Odor overwhelming; excellent preservation.

The lowest levels of Section 2 are similar to the mid-18th century fill appearing in Section 1. Here, in Unit V, is a dense accumulation of bone and mid-18th century household debris. The sediments are thoroughly waterlogged, and contain twigs and other organic matter indicating that the former landscape was lowland marsh or tidal flats. Intruding into this unit is a wood-framed privy, Feature 5. The privy was constructed of wide 1 in boards, apparently fastened together with clinched nails which have since disintegrated. Ceramics and bottle glass from this feature bracket its use from ca. 1745 to ca. 1780. Privy artifacts are often complete, although broken, and it is clear that the lower portion is undisturbed. Many fragmentary specimens were matched with pieces found above and outside the privy, however, showing that the upper part of the feature was truncated later by demolition or landscaping. Feature 4, a dry masonry foundation, was built directly above the privy. The historical significance of this later structure is unknown, and unfortunately no sediments or artifacts are directly associated with it.

The contact between Unit V and Unit IV is indistinct in the vicinity of the Merchant's Row foundation. Although it is not apparent in the profile,

there is evidence that the foundation trench for the Merchant's Row complex intrudes into these strata. Four fragments of a polychrome pearlware saucer were found in three separate 20 cm levels near the base of the foundation. The saucer is of a type not popular until the early 19th century, and contrasts with the middle 18th century debris of Units IV and V. Furthermore, the stratum is capped by a layer of clay, similar to that used in Area I to waterproof the foundation of store no. 4 at the other end of this same building complex.

Note that when this section of Merchant's Row was constructed, Feature 3 was a low doorway which gave access to the basement of store no. 6. Prior to the deposition of Unit III sediments, this doorway was partially bricked up and a wrought iron grate installed to make a small basement window. Evidently, approximately 1.3 m of deposits have accumulated since this section of Merchant's Row was constructed.

Charcoal and demolition debris in the narrow alley, represented in Stratum III, may be evidence for the 1811 fire which damaged this building (Gilman and Gilman 1811). Some bone and 18th century ceramics, however, imply that there is a stratigraphic inversion here, and that this includes backdirt from some unknown excavation. This sediment is quite heterogeneous and is apparently a secondary deposit.

The foundation excavation for Feature 1 intrudes into both Units III and IV. All artifacts associated with the foundation construction and fill date from the third quarter of the 19th century and later. Photographs show that at least one and possibly two frame buildings have been built on this foundation. The city directory for 1860 gives a clear reference to this address, and indicates that several mariners and their families were living here in a boarding-house (NCD 1860). Yet this house does not appear in the detailed city map of 1851, bracketing the period of construction between 1851 and 1859.

At the time the refuse of Unit II accumulated, the entire Merchant's Row complex must have fronted on the way to Ferry Wharf, for there was no access to the alley between it and the boardinghouse. Unit II trash, then, must be primarily associated with the boardinghouse. Diagnostic china, glassware, and bottle glass date between 1875 and 1930. Heaps of shellfish show that the back alley was repeatedly used as a dump, and that the sediments are otherwise undisturbed.

The boardinghouse was torn down shortly after 1935, reportedly by a junk dealer who owned this property. The top of the stone foundation was pushed into the cellar hole, together with the interior walls and roof. Above this primary demolition was a layer of junk, including awnings, grommets and sail maker's supplies. Two copper stencils identify this trash as that of sail maker William A. Davis and his son Benjamin Davis, who worked next door at 4 Ferry Wharf in the Merchant's Row complex from 1869 to 1915 (NCD 1869; Cheney 1964:310). This was evidently deposited just before Merchant's Row was demolished. Also in this basement fill were a number of lead alloy casket plates. These were an engraver's rejects, evidently salvaged for scrap. The most recent plate bears the date 1927. The cellar hole fill is capped by a layer of gravel and demolition rubble, Unit I, probably derived from the current renewal program.

Summary -- Sections 1 and 2

From the two stratigraphic sequences, we can piece together the following chronology:

1. Until ca. 1725, the cove mentioned in Captain Paul White's grant was still open wetlands. There was no major structure located at the site tested, which was near the edge of this cove.

2. Nevertheless, a nearby structure was razed and a new one constructed by 1750. Backdirt from a later intrusion contains diamond-paned casement windows which may have belonged to the earlier structure.

3. From ca. 1745 to ca. 1780, a privy stood on this site, perhaps associated with the later building. The privy contained household items including high-quality glassware and china. The property at this time was owned by a widow, Elizabeth Hale Watkins (ECPC 12159 and ECRD 73:52).

4. The privy was destroyed shortly thereafter, and a small structure erected over it ca. 1790. The history of the structure and its function are unknown, and there are few archaeological materials directly associated with it.

5. By 1800, store no. 6 of Merchant's Row was constructed. Originally this building had a basement access on its west side. By 1859, and probably earlier, this access was bricked up and converted to a basement window protected by a wrought iron grate.

6. Merchant's Row was burned in the fire of 1811, but not totally destroyed.

7. Before 1820, an annex was built onto Merchant's Row, forming a continuous line of eight stores from the Ferry Wharf Building to the end of Ferry Wharf.

8. By 1859, a large boardinghouse was constructed beside Merchant's Row, and the alley between the two buildings used thereafter as a dump area.

9. From 1935 to 1970, all buildings in this area were destroyed. First leveled was the boardinghouse, followed shortly thereafter by stores 6 and 7 of Merchant's Row. The current redevelopment program claimed the remaining Merchant's Row structures, except for store 8, now adjoined to the Ferry Wharf Building.

Area 5 -- Furniture Warehouse (Fig. A.4)

Furniture Warehouse is a 3 m square excavation between foundations of a three-story frame warehouse and a four-story brick structure. These buildings formerly stood on the land between City Wharf and Ferry Wharf, but were razed in the current redevelopment project before archaeological work began. The south side of this excavation intersects the northeast corner of the former furniture warehouse, apparently just at the footing for a modern elevator drive mechanism. The northern half of the pit samples the south side of a brick store complex constructed by Abner Wood ca. 1810. The central partition wall of this building appears along the east side of the excavation.

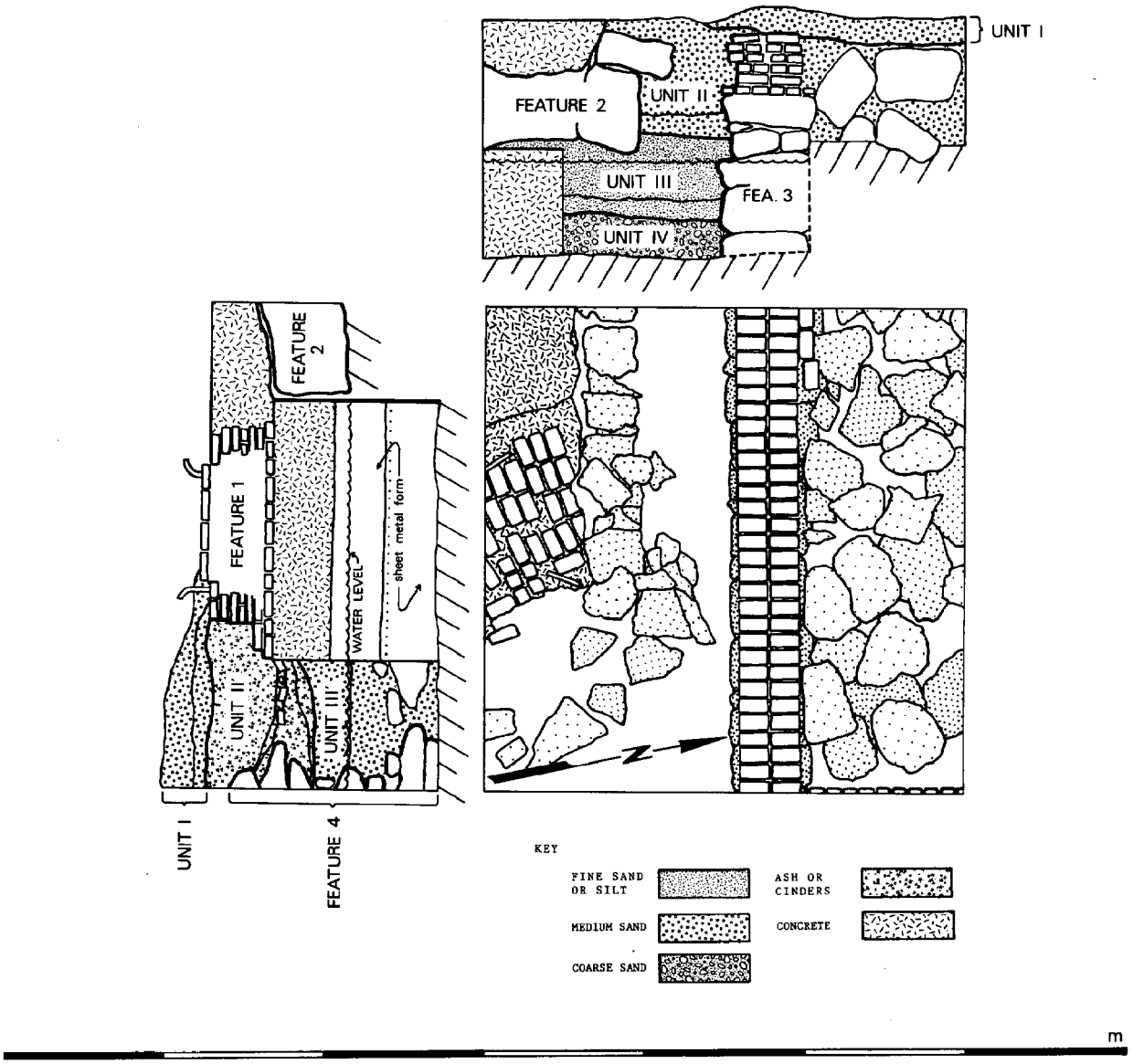


Fig. A.4. Area 5, Furniture Warehouse, in plan and profile. Points of interest include an unknown dry granite masonry structure, possibly a wharf embankment (Fea. 4), foundation of the Abner Wood Building (Fea. 3), footings of the frame Furniture Warehouse (Fea. 2), and the footings and counterweight for an elevator drive mechanism (Fea. 1). Note that the Abner Wood basement was filled with large boulders.

West Wall

Unit I
10YR4/3 brown to dark brown medium sand; containing bricks, pebbles, gravel road surfacing. Very abrupt, smooth boundary to Unit II.

Unit II
a 10YR3/2 very dark grayish brown medium sand with 10YR4/4 dark yellowish brown mottles; containing coal, coal ash, bricks, brick fragments, small rounded pebbles.

b 7.5Y4/4 dark brown medium sand; containing shell, wood, brick, brick fragments, angular cobbles. Shell at contact with Unit III.

Very abrupt, smooth boundary to Unit III.

Unit III
a 10YR4/3 brown to dark brown sandy loam; plastic, slightly sticky; containing bricks, brick fragments, charcoal. Gradual, smooth boundary to Stratum IIIb.

b 10YR4/2 dark grayish brown sandy loam with 5Y5/3 olive clay mottles; containing wood fragments.

Abrupt, smooth boundary to Unit IV.

Unit IV
10YR4/3 brown to dark brown coarse sand; containing whole oyster shell, coal flecks, brick particles, small to medium pebbles.

South Wall

Unit I'
a 10YR4/3 brown to dark brown (wet) medium sand; containing bricks, pebbles, gravel road surfacing.

b 10YR3/2 very dark grayish brown (wet) medium sand; containing wood, bricks, brick fragments, window glass.

Very abrupt, smooth boundary to Unit II'.

Feature 1 -- concrete casting
Steel rebar reinforced concrete and brick structure, cast in sheet metal forms; probably an elevator footing. Very abrupt, intrusive boundary to Units II', III', III, IV, and Feature 2.

Feature 2 -- granite foundation
Dry masonry foundation for Furniture Warehouse. Very abrupt, smooth contact with Unit III.

Unit II'
a 10YR3/1 very dark gray ash and cinders with 2.5YR3/4 dark reddish brown cinders; containing coal, ash, cinders, clinkers, brick particles, shell.

b 10YR5/4 yellowish brown medium sand; containing bricks, brick fragments, small pebbles.

c 10YR3/1 very dark gray ash and cinders.

d 10YR6/1 light gray to gray ash.

Very abrupt, smooth boundary to Unit III'.

Unit III'

a 10YR3/2 very dark grayish brown (wet) medium sand; containing brick flecks, coal traces. Gradual, smooth boundary to Stratum III'b.

b 10YR4/2 dark grayish brown (wet) medium sand; containing brick flecks, coal traces.

Feature 3 -- granite and brick foundation
Dry masonry granite lower foundation with four course thick brick wall. South end of Abner Wood Building.

Feature 4 -- granite rubble
Dry masonry. Structure unknown. Possibly early wharf fill.

The stratigraphy of Area 5 is complicated by the narrowness of the space between buildings, the recent intrusion of an elevator footing, and the high water table. All of these factors made it impossible to make a direct correlation between these two quite different profiles, even though they are from adjacent walls. However, it is possible to make several chronological statements about the features discovered here.

The oldest structure represented is loose granite rubble, Feature 4, in the south profile. Property descriptions indicate that prior to 1681, Richard Dole had built a wharf in this vicinity (ECRD 10:171). A description of the property in 1760 indicates that the northern end of the wharf was located at our excavation site (ECPC 15281). The granite rubble could be fill for this early wharf, since the sediments of Unit III', which abut this feature, apparently date including free-blown wine bottles, slip-decorated earthenware, delftware, and white saltglaze stoneware. It should be noted, however, that at the top of Feature 4 is an accumulation of demolition debris with slate roofing. This is certainly the refuse of a much later structure, and probably is not related to the lower rubble. Nevertheless, there is no stratigraphic evidence for separation of the two.

Unit II' is apparently fill for the shallow foundation of Furniture Warehouse, Feature 2. The artifacts associated with these layers of ash fill are still predominantly household refuse, but date to the second or third quarter of the 19th century. The picture is obscured, however, by the intrusion of Feature 1. This was apparently a footing for an elevator which appears in the 1954 Sanborn insurance atlas. It must have been installed by excavating away most of the northeast corner of the warehouse foundation from the inside of the building, lining the cavity with sheet metal as a form and then pouring the concrete into the hole. In the process, many of the foundation stones under the building were removed, yet there was surprisingly little disturbance of the sediments outside the building in the alley. This feature is partially covered by Unit I', recent surfacing placed here after demolition of these buildings.

The west wall of the pit shows a somewhat different record. Unit IV, like Unit III', seems to contain predominantly middle to late 18th century household debris. Unit III, however, contains a large amount of early 19th century fill which may have accumulated at the time of construction of the Abner Wood Building, the foundation of which appears as Feature 3. It is unknown whether this foundation is actually set on the 18th century wharf stones, or whether it is intrusive into them. Unit II contains some recent accumulations, particularly scrap metal and welding rod derived from the McGlew welding shop, which operated on the other side of the Abner Wood Building through the 1960's.

Note that the interior of the Abner Wood Building was not excavated, as it was filled with large boulders which could not be removed without causing the foundation to collapse into the alley. The source of these boulders is unknown. Perhaps they were placed within the foundation during construction, as wharf rubble was encountered in excavating the building's footings. Alternatively, they could be demolition materials. However, the boulder accumulation is remarkably free of brick demolition in this area, and the former interpretation seems more likely. Clearly, it would have been impossible to construct a functional basement here, considering the extremely high water table.

The following statements can be derived from this information:

1. The alley between the two buildings in question has been the site of continuous deposition of cultural refuse since the middle 18th century.

2. An early granite structure, probably Richard Dole's wharf or a successor, was built here during the 18th century.

3. Next, the Abner Wood Building was constructed, perhaps upon early wharf ballast.

4. Furniture Warehouse was a newer, middle to late 19th century structure apparently with no basement.

5. A huge concrete footing was poured under the floor of the warehouse foundation. This was probably the pad for an elevator drive mechanism, known to have existed in the northwest corner of the building in 1954. A concrete slab floor was poured at this time as well.

Area 6 -- Dole (Fig. A.5)

The Dole excavation is a 2 m by 5 m trench aligned approximately east-west. The excavation samples features on both sides of Market Landing's eastern boundary, property which was laid out in 1678 by the town for Richard Dole to build a wharf and dock (Coffin 1845:120; Currier 1896a:154).

Unit I
2.5Y4/4 olive brown sandy gravel. Base for temporary parking lot, deposited April, 1977. Very abrupt, smooth boundary to Feature 1 and Feature 2.

Feature 1 -- PVC plastic 4 in drains and fill
10YR4/4 dark yellowish brown medium sand. Work done Spring, 1977. Very abrupt, intrusive boundary to Units II, III, and Feature 2.

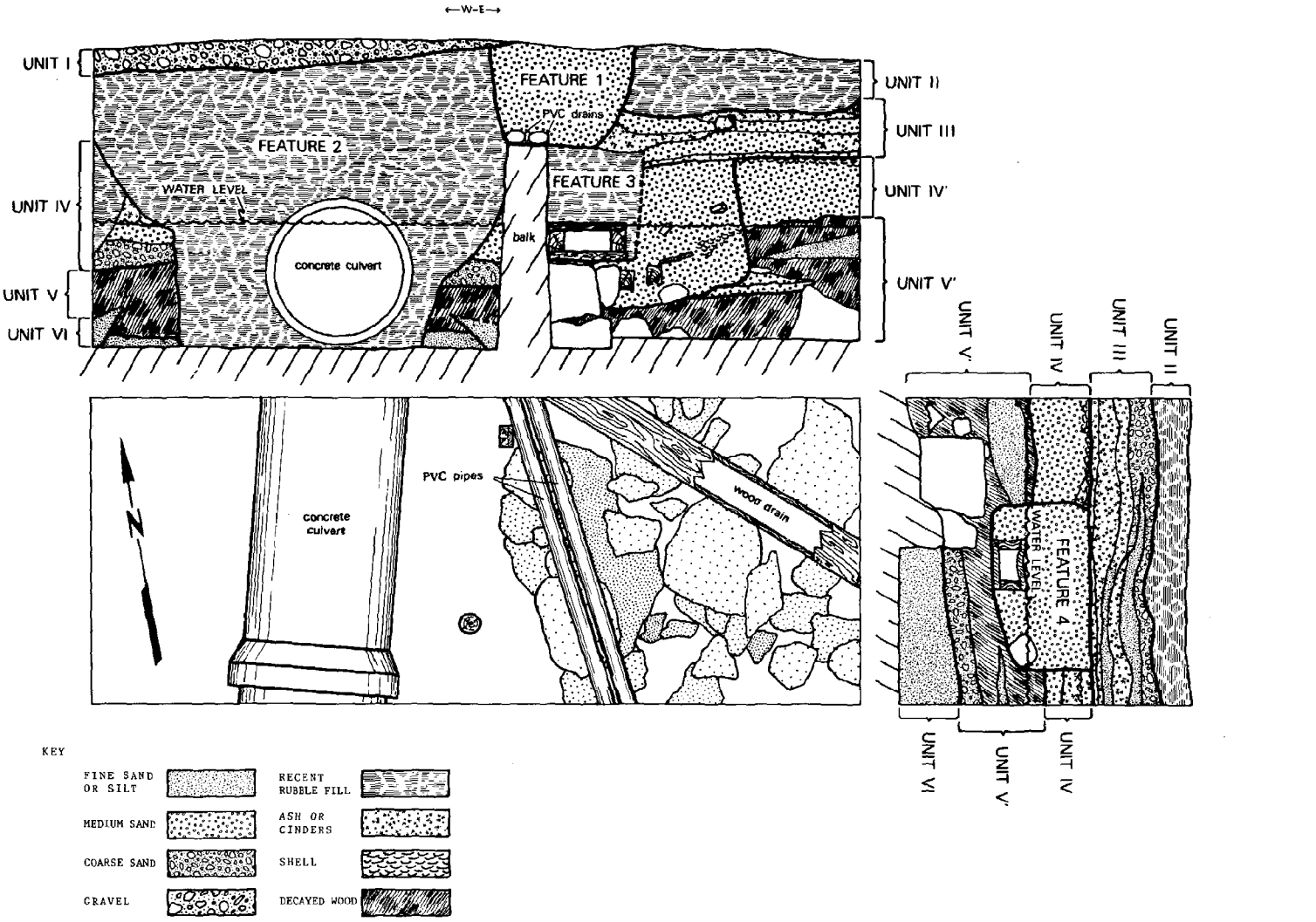


Fig. A.5. Area 6, Dole, in plan and profile. Details include wood chips from the Middle Ship Yard (Units V and V'), a wooden drain leading from North Row (Fea. 4; re-excavated in Feature 3), two wharf pilings (just west of balk), modern drains from North Row (Fea. 1), and a modern storm sewer (Fea. 2).

Feature 2 - concrete storm drain and associated fill
10YR3/3 dark brown sand and rubble; containing asphalt, whole brick, wire, etc. Concrete drain inscribed "4-5-75." Very abrupt, intrusive boundary to Units IV, V, and VI.

Unit II
10YR3/3 dark brown sand and rubble fill; containing bricks, brick fragments, rounded and angular pebbles and cobbles. Very abrupt, wavy boundary to Unit III.

Unit III
a 10YR4/4 dark yellowish brown coarse sandy loam with fine silt lenses; containing shell ash, small brick fragments, coal, etc. A heterogeneous mixture of several lenses; gradual transition to:

a1 10YR4/3 brown to dark brown fine sand lens in Stratum IIa; containing ash, cinders, and clinkers. Abrupt, wavy boundary to Stratum IIa2.

a2 10YR4/2 dark grayish brown, to 10YR6/2 light brownish gray ash; containing cinders, clinkers, disintegrated shell, ash. Also contains a complete 1-qt. stoneware jug in north wall.

b1 2.5Y3/0 very dark gray fine sand and ash; slightly plastic, non-sticky; containing coal, ash, clinkers.

b2 2.5Y4/2 dark grayish brown medium sand with 2.5Y5/4 light olive brown fine sand mottles; containing cinders, coal, ash, rounded and angular pebbles and cobbles. Capped by a layer of decomposed wood chips.

c 2.5Y6/0 light gray to gray, to 2.5YR4/4 reddish brown clinkers and cinders; containing ash, brick fragments, wood fragments, etc.

d1 10YR4/1 dark gray sand; containing ash, bits of shell, brick particles, rounded pebbles.

d2 10YR6/1 light gray to gray, to 10YR2/1 black cinders and ash; containing a few large pebbles.

Abrupt, smooth boundary to Unit IV and Feature 4.

Feature 3 -- repair trench for wooden drain
10YR3/2 very dark grayish brown medium sand; containing large loose angular rocks, bricks. Heterogeneous fill. Very abrupt, intrusive boundary to Unit III and Unit 4; indistinct boundary to Feature 4.

Feature 4 -- wooden drain and associated fill
10YR3/3 dark brown to 10YR3/2 very dark grayish brown mottles; containing bricks, brick fragments, wood, rounded pebbles and cobbles, nails (unidentifiable), shell, coal, ash, etc. Very abrupt, intrusive boundary to Units IV' and V'.

Unit IV' -- above Wharf
10YR3/3 dark brown medium sand with 10YR3/2 very dark grayish brown

mottles; containing brick fragments, cobbles, pebbles. Capped by a layer of shell. Contains the following lenses:

a 5YR7/3 pink ash and shell; containing clam and oyster shell, cinders, coal, brick fragments, slate roofing, clinkers.

b 10YR5/2 grayish brown to 5YR5/2 reddish gray ash lens; containing cinders, ash clinkers, coal.

c 10YR4/3 brown to dark brown sand; containing medium and large cobbles, brick fragments.

Very abrupt, wavy boundary, showing apparent shovel marks, to Unit V'.

Unit IV -- slip fill

a 5YR7/3 pink ash and oyster shell, cinders, coal, brick fragments, slate roofing, clinkers. Shell occurs in repeated bands.

b 10YR4/3 brown to dark brown sand; containing medium and large pebbles and cobbles, brick fragments.

c 10YR4/3 brown to dark brown coarse sand with 5YR4/6 yellowish red mottles; containing medium to large cobbles.

Very abrupt, smooth boundary to Unit V.

Unit V' -- redeposited material from Unit V and VI

5YR3/1 very dark gray (wet) medium to coarse sand; containing decayed wood chips, brick particles. Also contains the following lenses:

a1 5Y4/2 olive gray fine sand with 10YR2/1 black mottles; non-plastic, non-sticky. Probably redeposited from Units V and VI.

a2 10YR3/2 very dark grayish brown (wet) coarse sand with extensive 5YR5/8 yellowish red mottles; containing brick fragments, wood chips, decayed organic matter. Probably redeposited material from Units V and VI, together with some more modern debris.

a3 10YR3/2 very dark grayish brown sand; containing brick fragments. Capped by a thin lens of decayed wood.

a4 2.5Y4/2 dark grayish brown (wet) medium sand; containing brick particles. Capped by a thin lens of decayed wood.

Very abrupt, smooth boundary to Unit V.

Unit V

5YR3/1 very dark gray (wet) medium to coarse sand; compact; containing dense, decayed wood chips, brick particles. Very abrupt, smooth boundary to Unit VI.

Unit VI

5Y4/2 olive gray to 5Y4/3 olive (wet) fine sand; non-plastic to slightly plastic, non-sticky. Banded at water level; less gleying at east end of profile. Unknown boundary below water table.

The earliest sediment here is apparently a beach, Unit VI. Except for a few middle or late 18th century items of household trash at its upper surface, the unit was apparently sterile. This upper surface slopes gently downward towards the northwest, and was probably the southeast corner of the Town Landing as it existed about the time of the Revolutionary War. Immediately above this, in Unit V, is a dense accumulation of wood chips and shavings, most likely associated with the 18th century operation of the Middle Ship Yard on this site (Huse 1872:4; Currier 1877:23). Some pieces of heavy, painted stoneware and Chinese export porcelain in this unit suggest that the shipbuilding activity may have continued into the early 19th century. Alternatively, they may have become incorporated into this sediment as the large volume of chips settled and became compact.

Materials from both Units V and VI have been partially removed and redeposited as Unit V'. This apparently occurred in conjunction with wharf construction, represented in plan view by the accumulation of boulders in the east end of the pit, and by two remnant pilings. Note that these boulders do not extend into the southern wall of the trench, as this was apparently the head of the Town Landing. A red earthenware jug found in association with this construction probably dates prior to 1810, and may be much earlier. One of the pilings is a reworked oak beam which has been hewn to a point. It retains a square mortised hole from its former use. This piling was burned to the waterline, probably in a local fire, for we know from historic documentation that this area was definitely spared by the Great Fire of 1811 (Gilman and Gilman 1811). The second, round piling is probably a remnant of a later reconstruction of the wharf. Similar pilings are evident in photographs of the slip taken ca. 1865.

The construction of the wharf divides the stratigraphic record into two segments: slip and wharf. Unit IV', above the wharf, begins at an irregular contact with Unit V', suggesting that this surface has been scraped with a shovel immediately prior to Unit IV' deposition. Perhaps this is cutting and filling of an adjacent drain trench similar to later ones which appear in this profile. Above the contact is a regular accumulation of fuel waste and shell, associated with a few sherds of annular ware, blue shell-edge, and other early 19th century ceramics. Above the slip is a lesser, but similar accumulation which is presumed to be roughly contemporaneous.

Sometime during the accumulation of this shell and ash debris, a wooden drain was installed, leading from one of the stores of the North Row to the head of the Market Slip. This drain was apparently held together with nails, but these have completely rusted away. Originally set in the Feature 4 trench, it was re-excavated at its opening for maintenance, as indicated by the Feature 3 trench. The drain trench extends over the top of the wharf rocks and the burned piling previously mentioned, indicating that the wharf had been in existence for some time before this drain was installed. Remnants of another wooden drain, roughly contemporaneous with this one, appeared in the south wall of the Dole excavation (not shown). Unfortunately, it was almost totally destroyed by installation of a modern concrete storm sewer, Feature 2.

The accumulation of cinders and shell continued through the middle of the 19th century, represented in Unit III. This sediment includes a brown stoneware quart jug shown in the profile, a few pieces of plain white ironstone china, and some early blown-in-mold glass sherds. A major break in this build-up or refuse occurs at the contact with Unit II. Upon this surface were built

the frame buildings known historically to have existed in the area in the last quarter of the 19th century. Presumably the slip was filled at this time, although the record has been obliterated by modern storm sewer construction. A carpenter shop and a blacksmith shop appear here in an early 20th century photograph. At some time between 1922 and 1940 these buildings were razed, and a concrete and steel Studebaker garage, later a printing shop, was built in their place. The rubble of Unit II is probably derived from this demolition; rubble from the later printing shop was piled above Trench 2.

The remaining features are, of course, quite modern. The concrete storm sewer, Feature 2, was installed after May of 1974, and was followed in the Spring of 1977 by Feature 1, plastic drains leading from the downspouts of the North Row. In April of 1977, the area was covered with a layer of gravel to provide temporary parking for the residences and businesses of the newly renovated North Row.

The sequence of sedimentation implies the following:

1. A landing existed on this site in the Colonial Period.

2. This landing was probably the location of the Middle Ship Yard, where privateers were built and outfitted during the American Revolution.

3. While the shipyard was still in operation, or shortly thereafter, the eastern boundary of the landing was redefined by westward expansion of Greenleaf's Wharf.

4. Although Greenleaf's Wharf is known to have escaped the Great Fire of 1811, it was burned to the waterline at about 1800. New pilings were added shortly thereafter.

5. In the early 19th century, fishermen used this Market Landing for shellfish refuse and local businesses dumped the residue of coal-burning stoves here. Blacksmithing may have contributed to this debris as well, although no wrought iron scrap was recovered.

6. A wooden gutter was installed leading over the wharf in the early 19th century. This may have drained the store of William Russell, part of the North Row building complex, as it appears to lead from this direction. Russell's store is known to have been built on a former spring, in which case the construction would be appropriate. The fact that it was possible to build such a gutter suggests that there were no intervening buildings at this time.

7. The outlet of the drain was subsequently excavated, probably to clean it out.

8. The Market Landing continued to be used as a dump for shellfish and cinders through the third quarter of the 19th century.

9. Frame buildings, including a carpenter shop and a blacksmith shop, were built after 1872, when the south end of Market Slip was occluded by railroad construction and was subsequently filled. The demolition debris of these structures, accompanied by an 1885 dime, comprised the uppermost stratum of the excavation.

10. These buildings were replaced by the concrete brick and steel Studebaker garage by 1940, some debris of which is also found in the top stratum.

APPENDIX B

PROPERTY TITLE TRACE

General Comments

1. Properties are discussed in order from west to east.

2. On any page, the order of entries from left to right indicates spatial order from west to east or from the street frontage to the river.

3. Mortgages are cited only if they supply significant information not found elsewhere. All mortgages cited are so identified.

4. A dashed line indicates one or more transactions not located.

5. The Davison grant of 1687 was described as lying next to Dole's warehouse grant. This could have been either next to Dole's grant of 1678, on the western edge of the project area, or next to the Rolfe and Dole grant of 1680, west of the Middle Ship Yard and outside the project area. The property is listed in an inventory of Daniel Davison's estate made in 1718 (ECPC 7374). His widow, Abigail Davison, was named executrix of his estate and she sold the land to John Greenleaf on June 5, 1718 (ECRD 38:215). This deed gives the same ambiguous description as the original grant. If it was on the Central Waterfront, it passed by the above deed to John Greenleaf and was willed by him to his sons with the rest of his Central Waterfront property (ECPC 11762; see A25). In any event, this was a very small parcel, measuring only 20 ft. by 35 ft.

Abbreviations

Letters designate locations as follows:

*G	West of Middle Ship Yard	Greenleaf grant	1697
*F	West of Middle Ship Yard	Greenleaf & Davison grant	1680
*N	West of Middle Ship Yard	Rolfe & Dole grant	1680
A	North Row property	Dole grant	1678
B	Davenport property	Dole grant	1675
C	Ferry Wharf property	White grant	1655
D	Granger property	White grant	1655
E	Gunnison property	Clark grant	1680

* Not in project area.

The number used with the code letter indicates a transaction's approximate chronological order in the sequence of transfers for that location.

Data presented here are derived from the following sources:

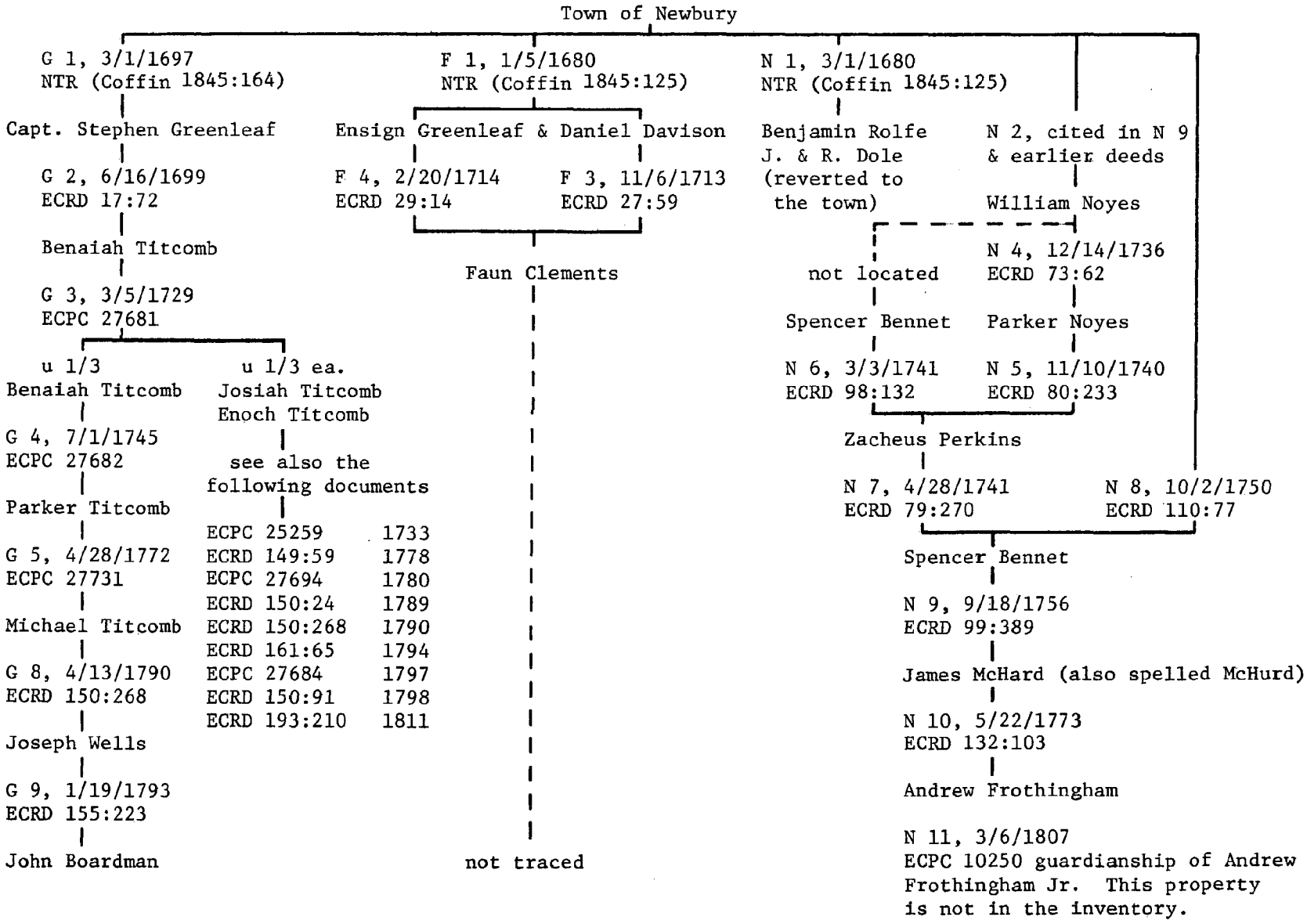
ECRD___:___ Essex County Registry of Deeds, volume and page.
ECPC_____ Essex County Probate Court, docket number--original document.

ECPC___:___ Essex County Probate Court, volume and page--document copies.
ECE & D___:___ Essex County Executions and Depositions, volume and page.
NTR__/__/__ Newbury Town Records, cited by date.

Other abbreviations include:

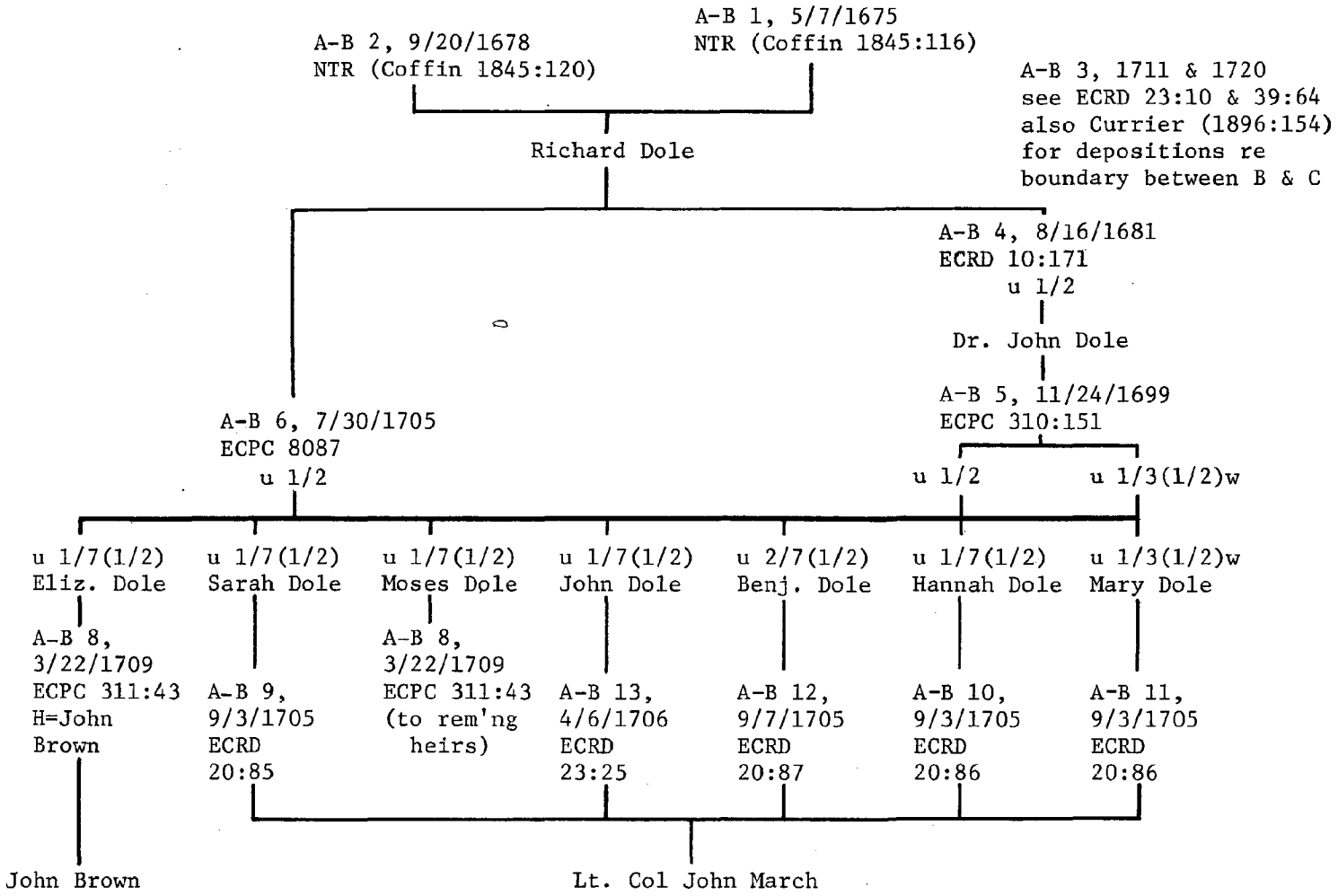
u 1/2 Undivided one half of a title; other fractions also used.
w Widow's dower--right to use an undivided part of a property during widowhood, usually 1/3 of house, land, etc.
h Husband--used when property is inherited by a woman and the title is later transferred in her husband's name.

N-F-G (land to the west of the Middle Ship Yard)

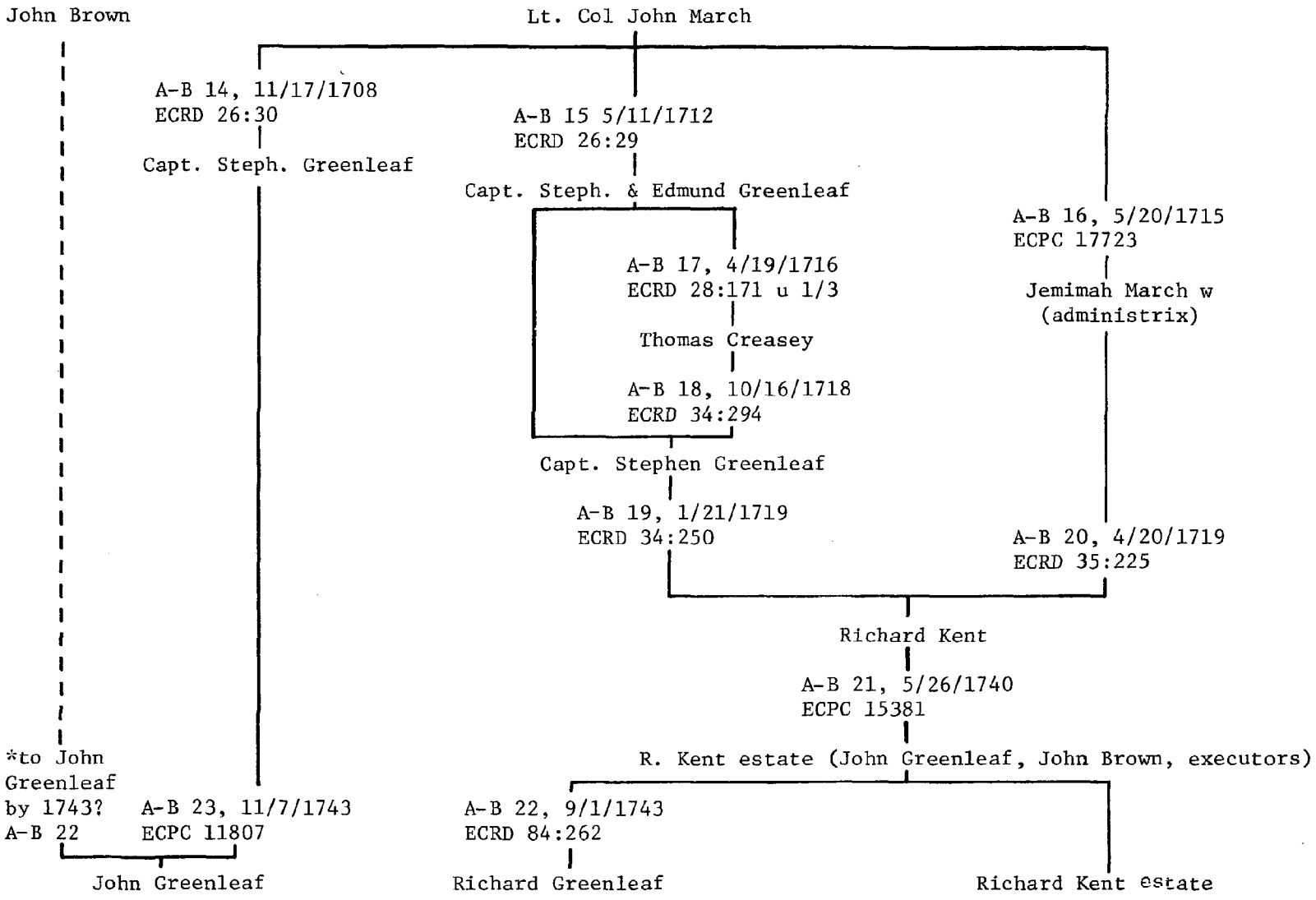


A-B (North Row and Davenport properties)

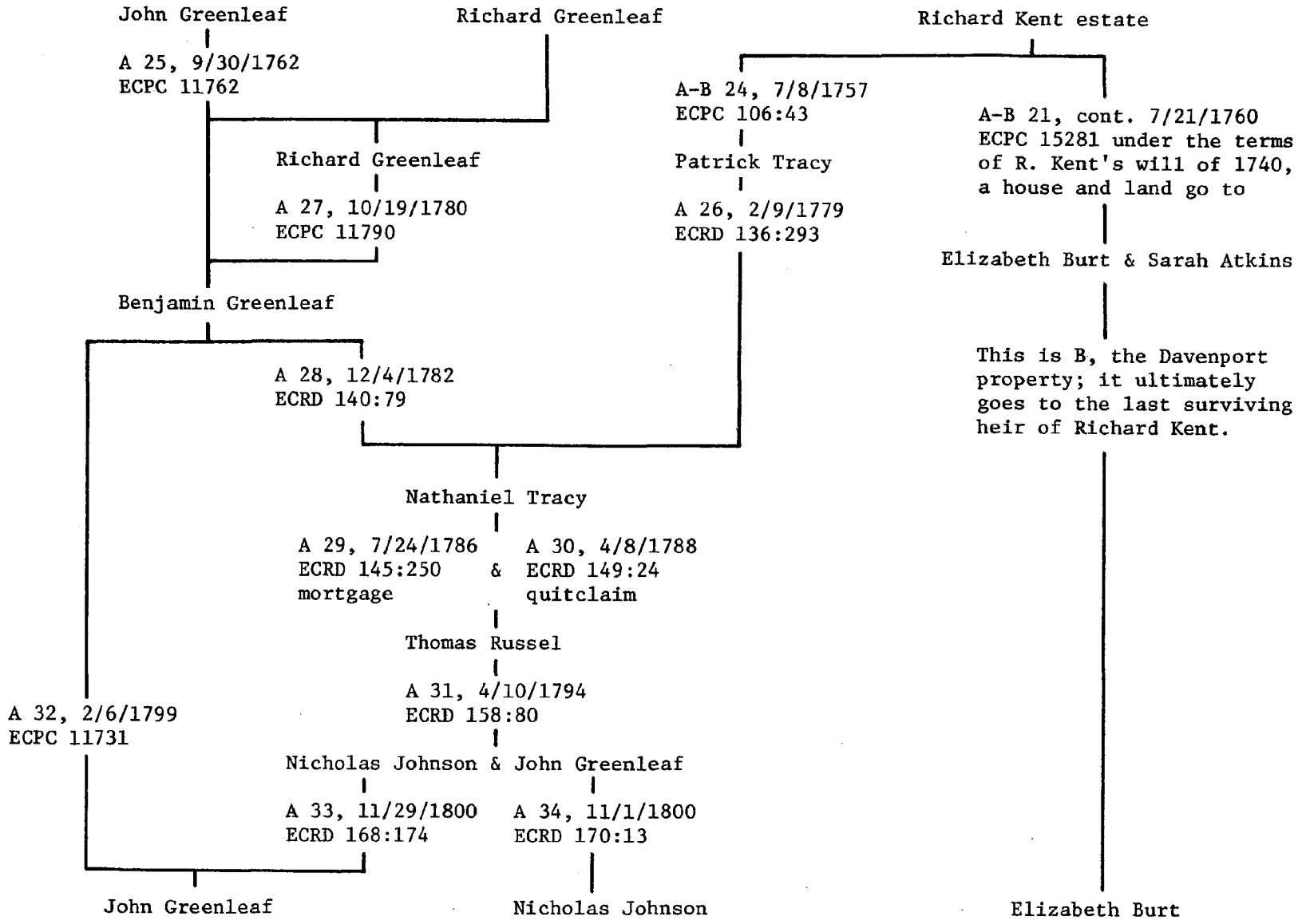
Town of Newbury



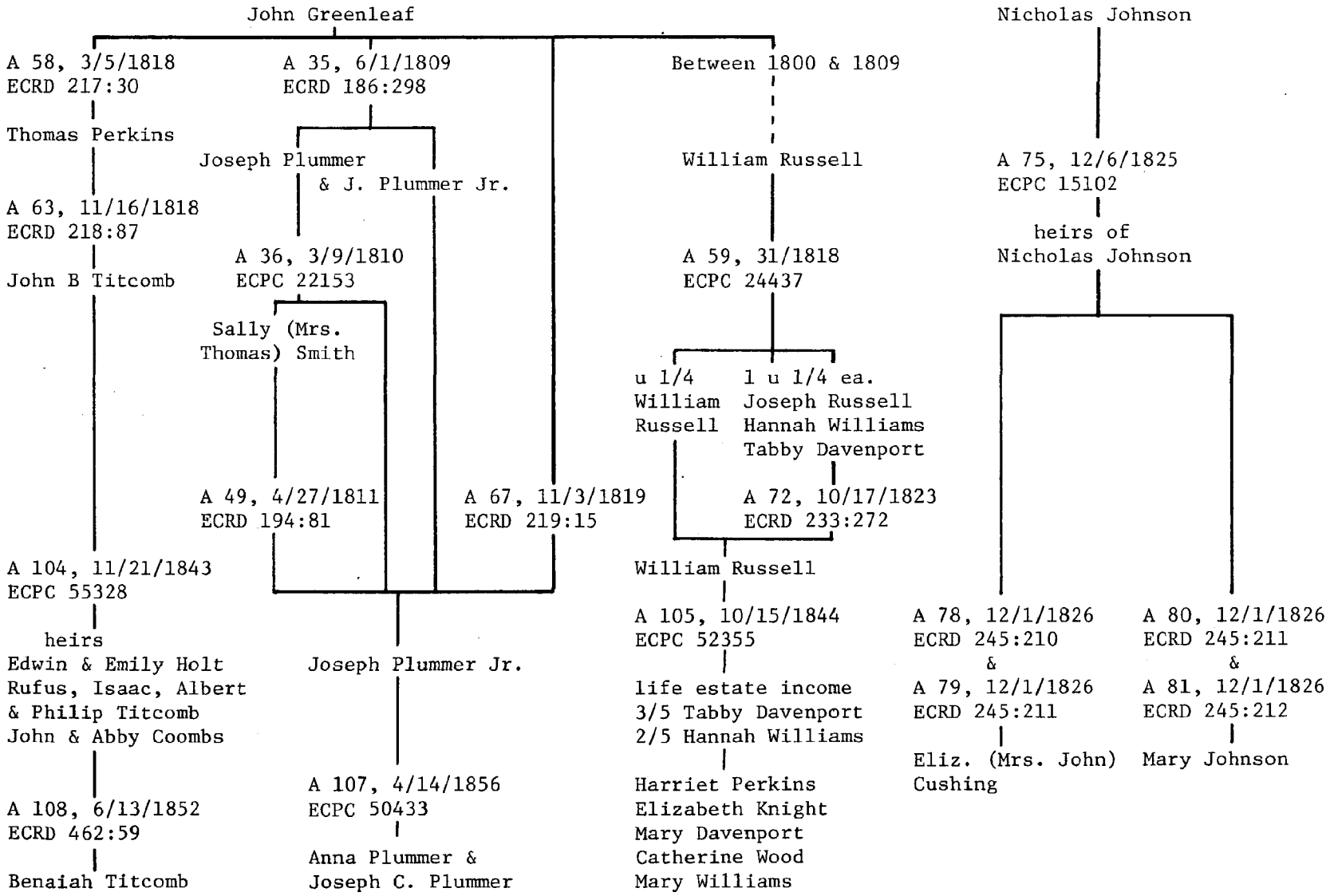
A-B (North Row and Davenport properties)



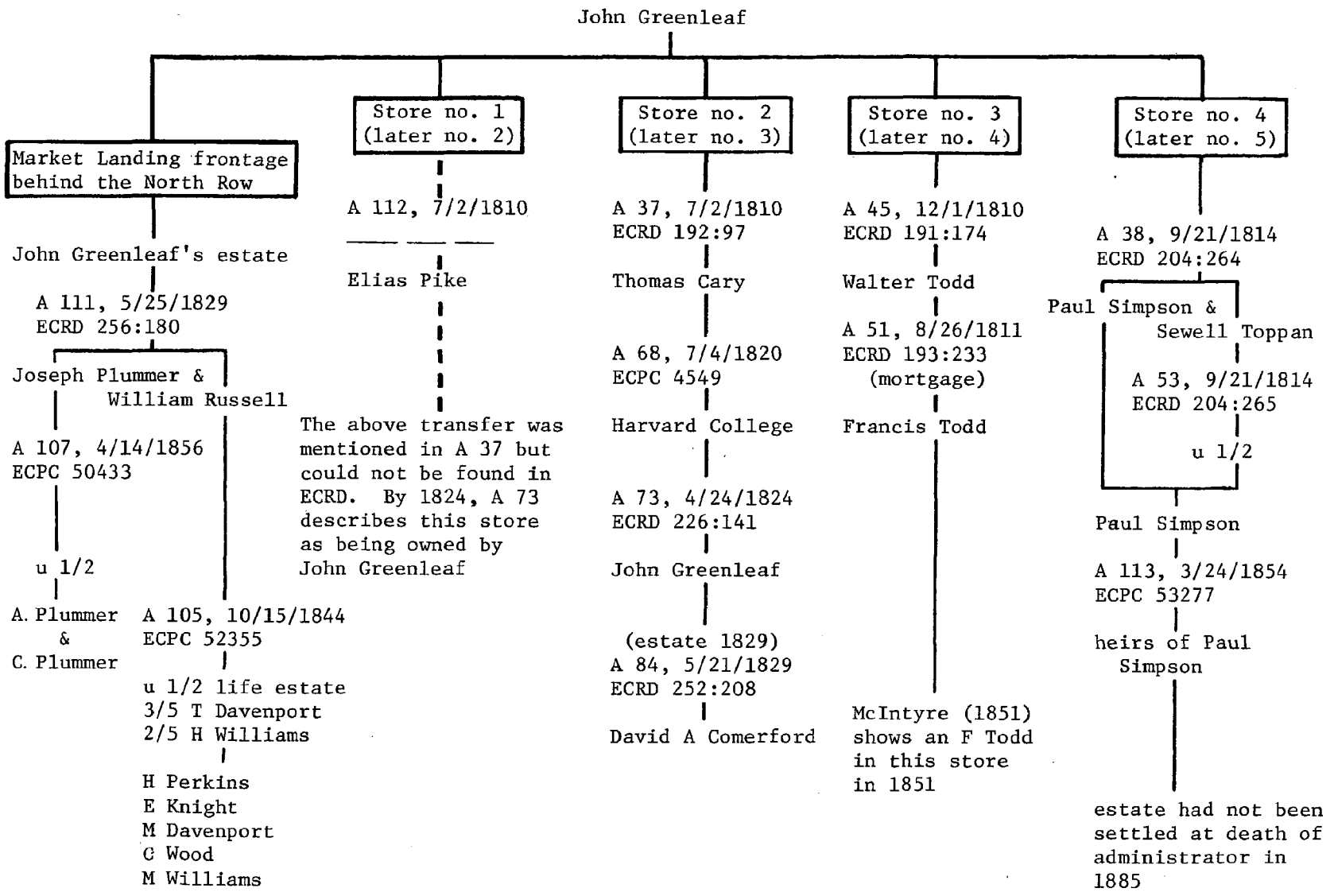
A-B (North Row and Davenport properties)



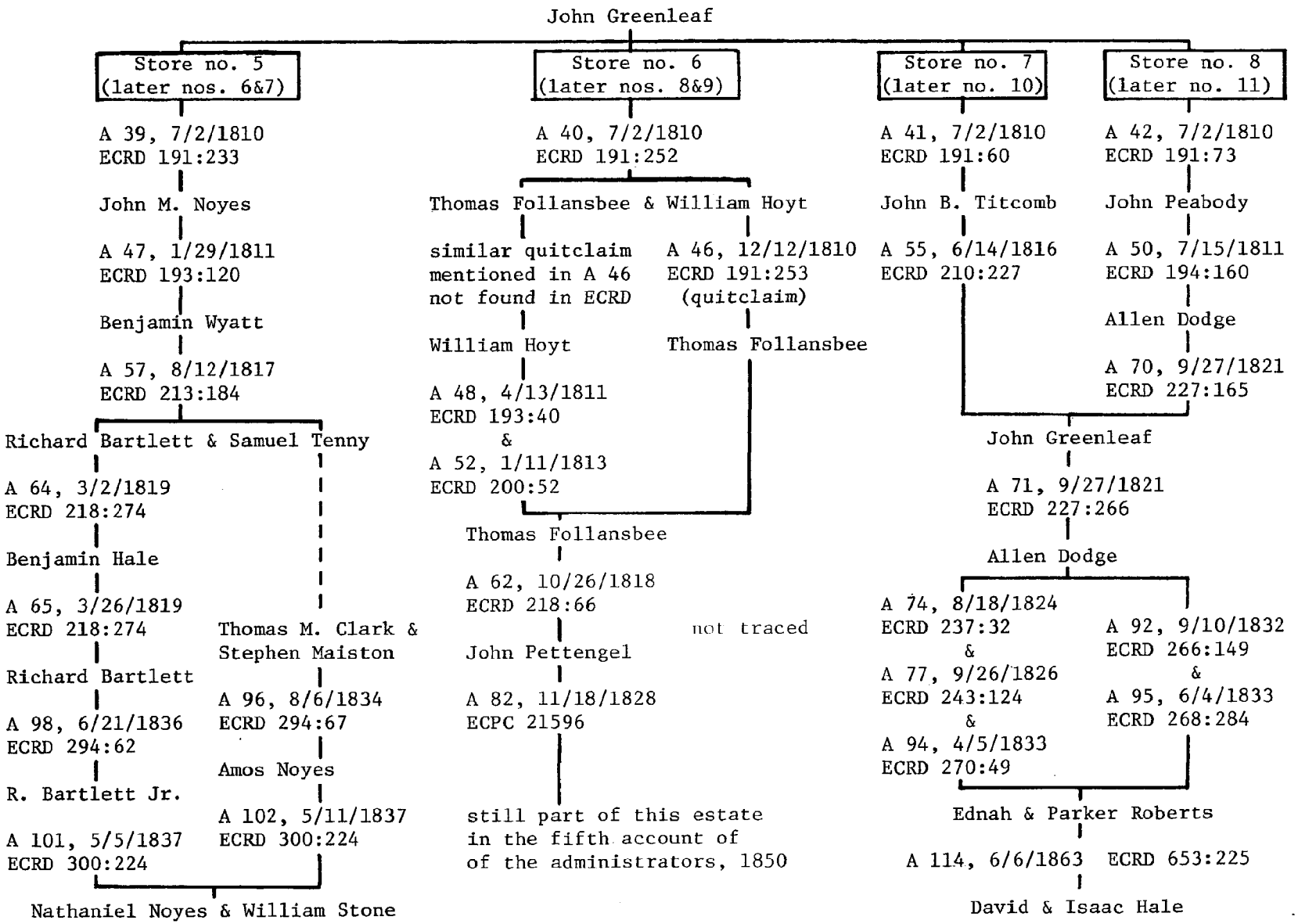
A (North Row, Market Square)



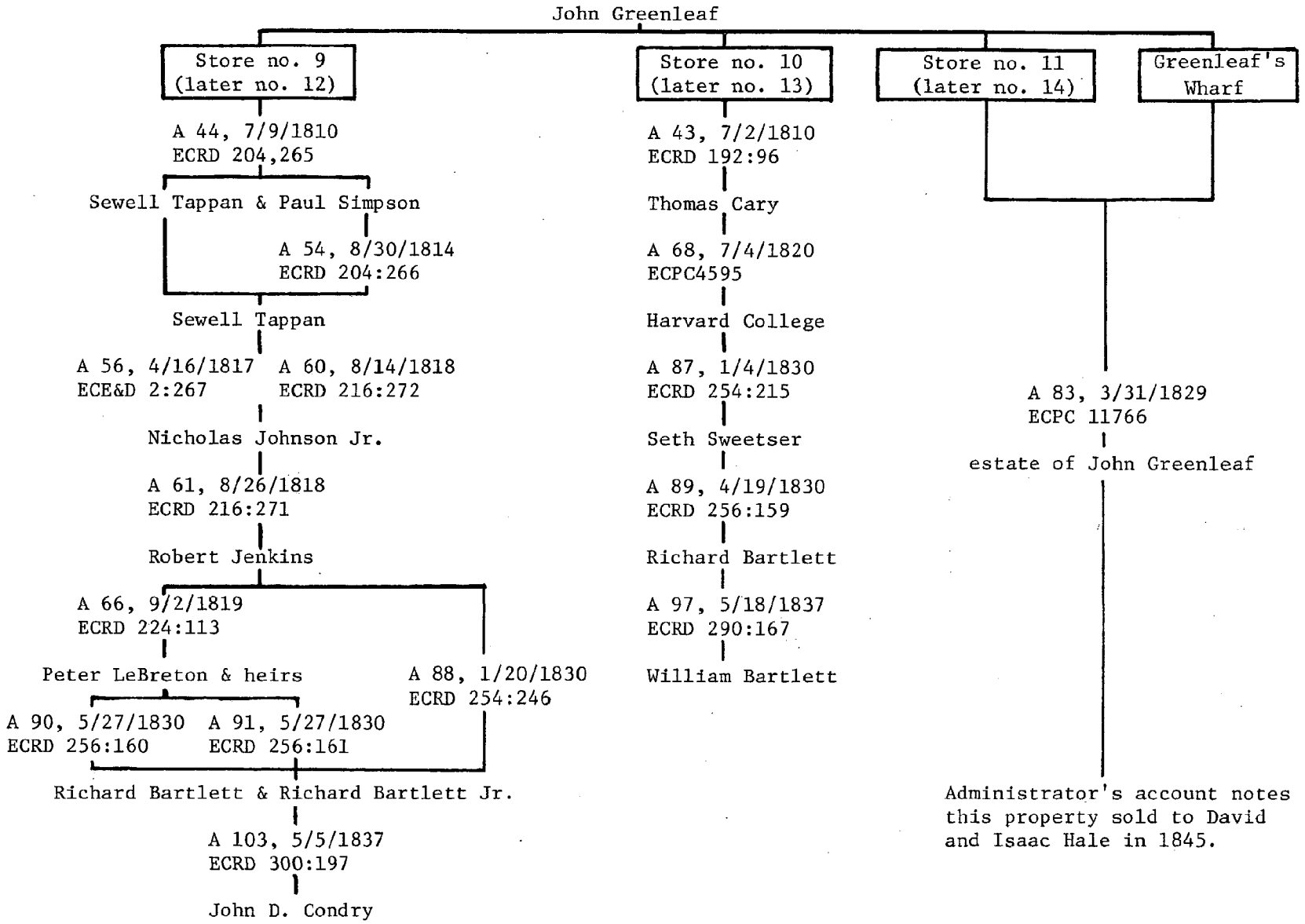
A (Greenleaf's Wharf, later City Wharf)



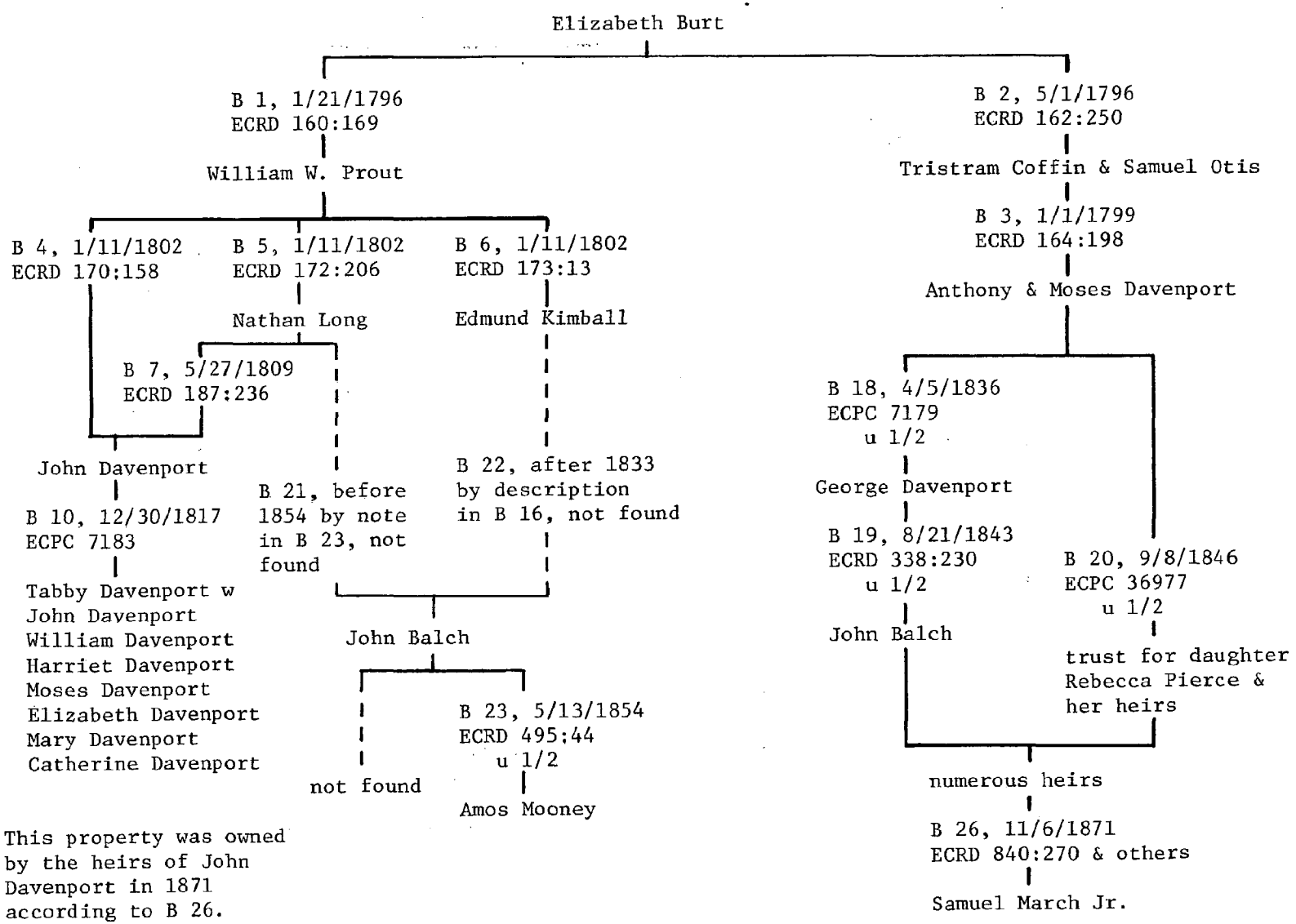
A (Greenleaf's Wharf, later City Wharf)



A (Greenleaf's Wharf, later City Wharf)

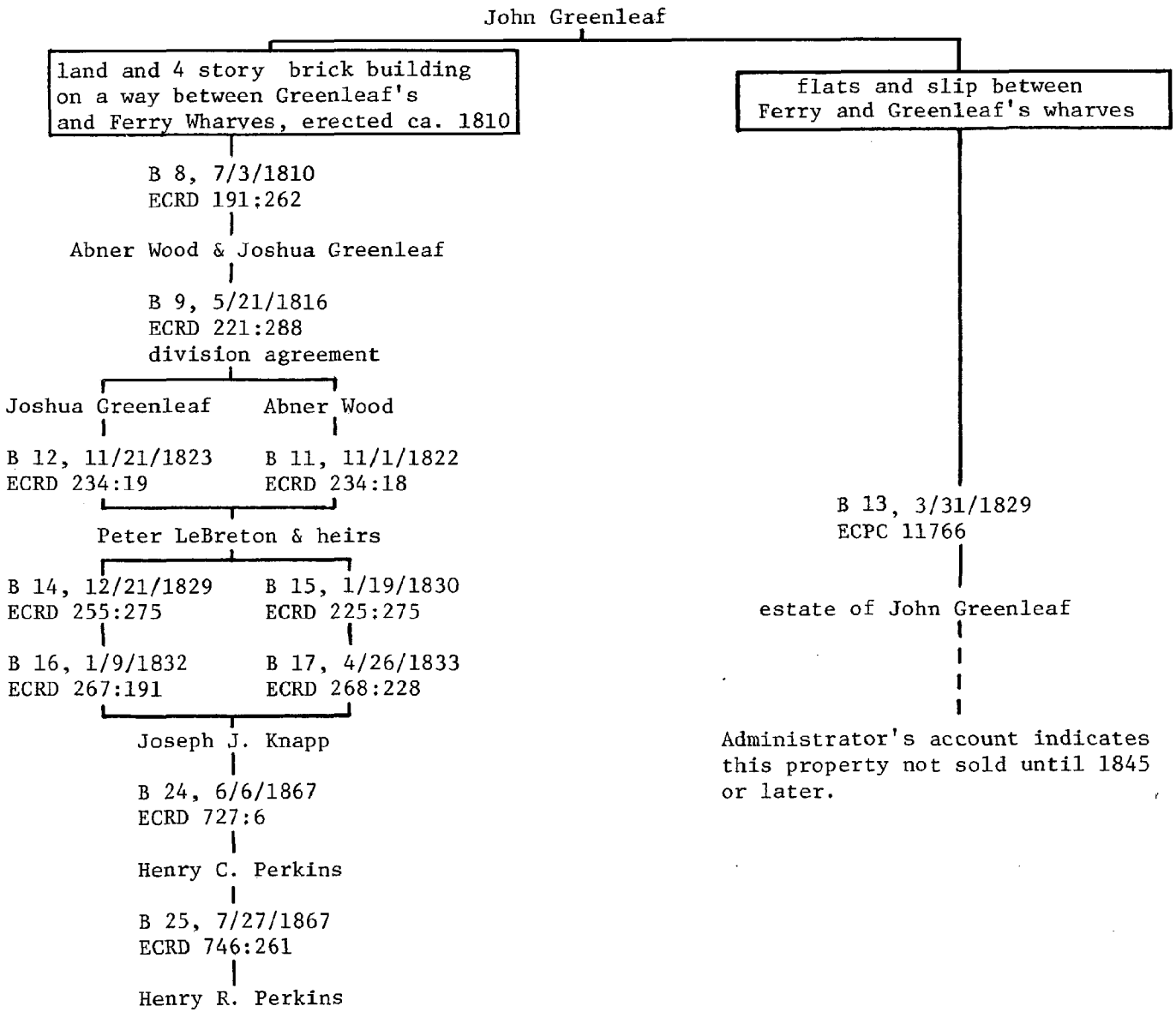


B (Davenport property)

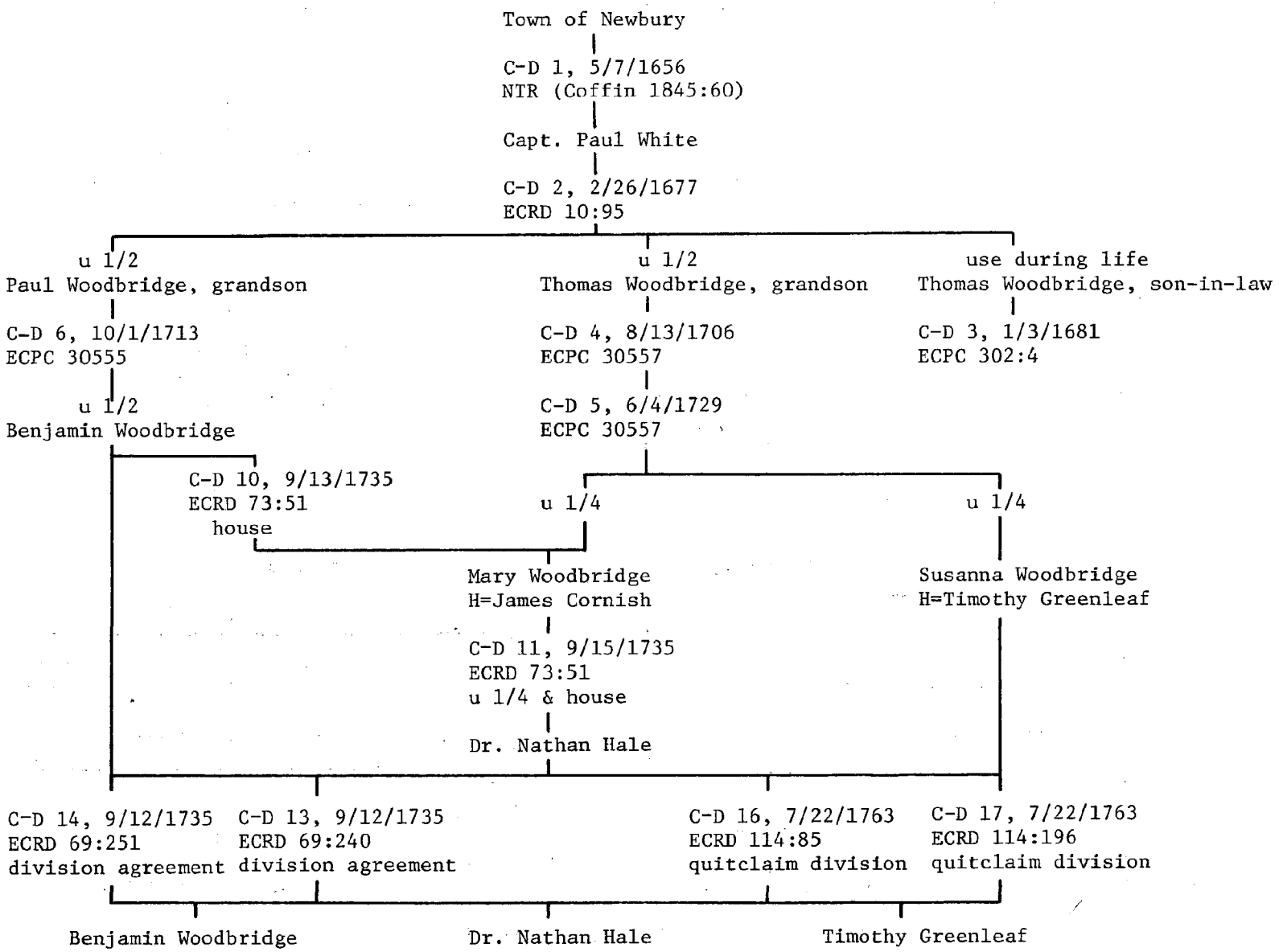


This property was owned by the heirs of John Davenport in 1871 according to B 26.

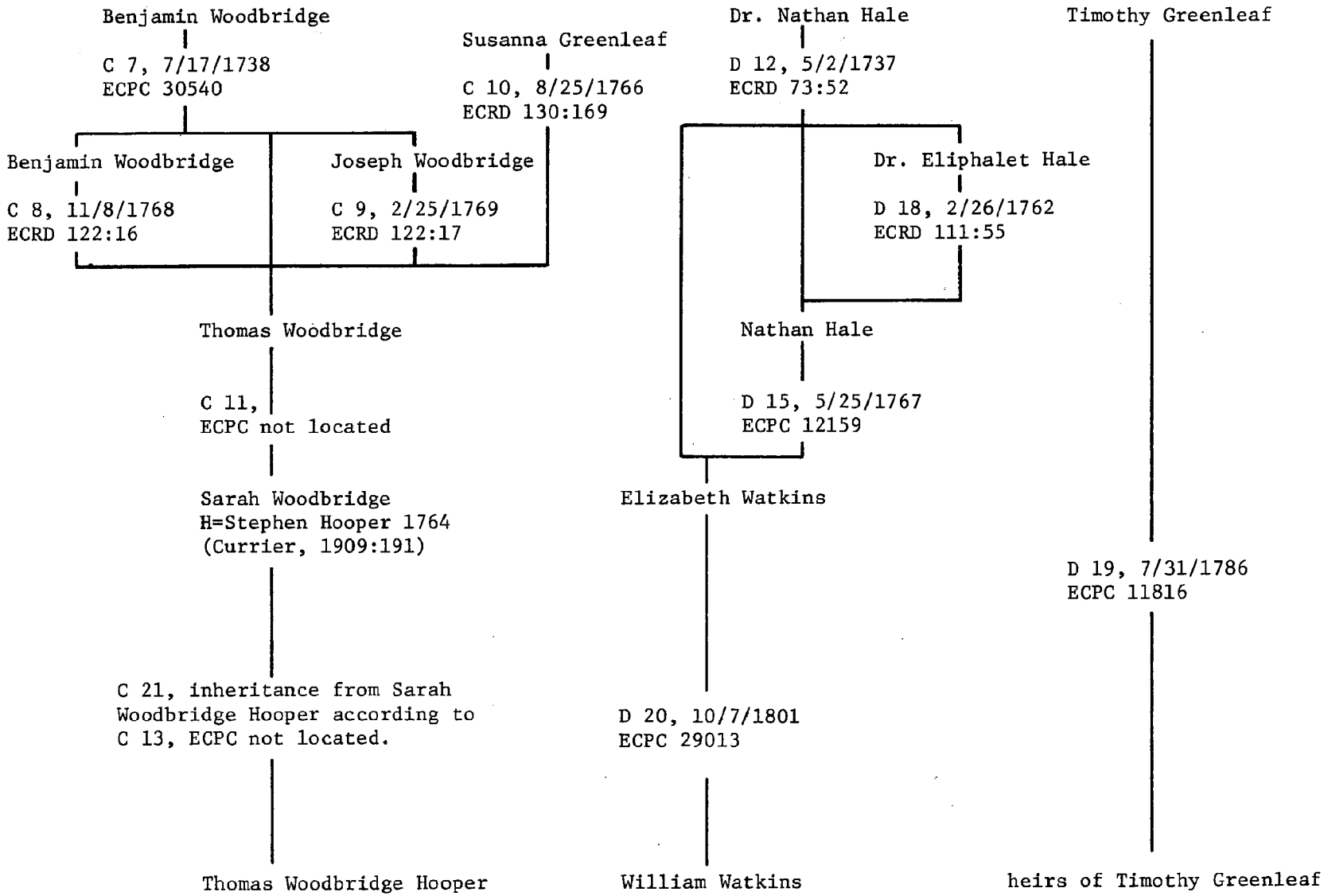
B (Davenport property, rear)



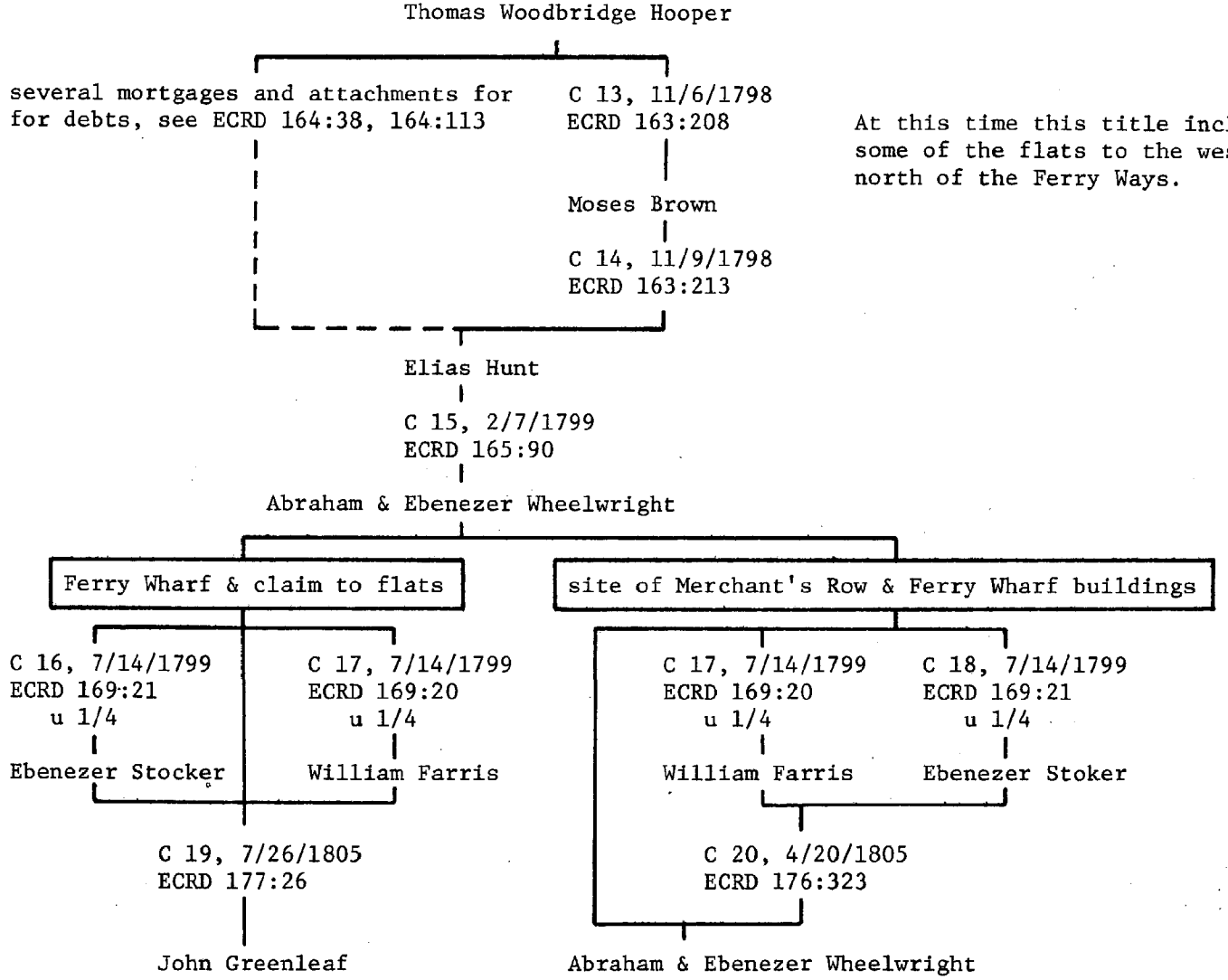
C-D (Ferry Wharf & Granger properties)



C-D (Ferry Wharf & Granger properties)



C (Ferry Wharf property)



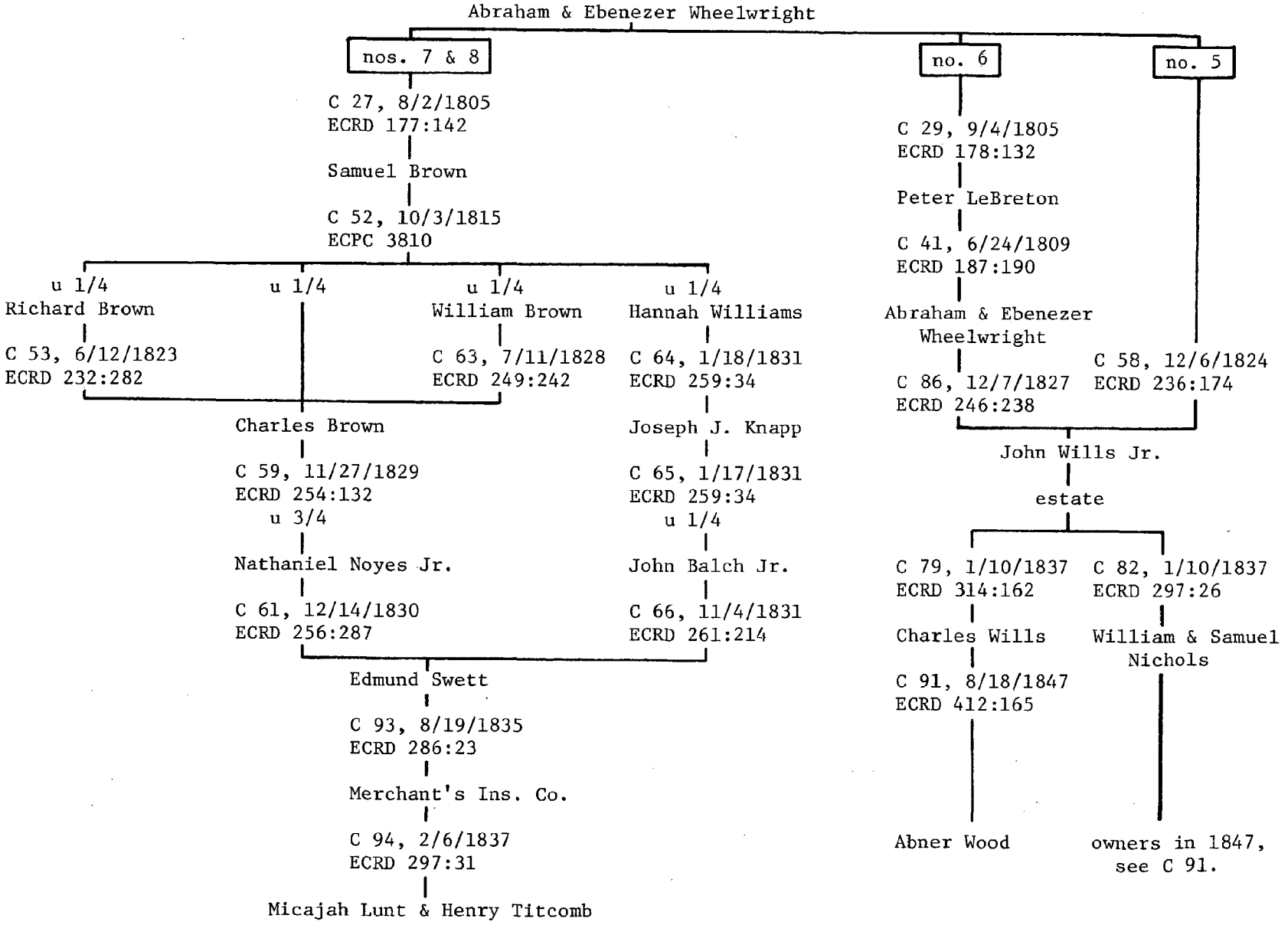
At this time this title included some of the flats to the west and north of the Ferry Ways.

C (Ferry Wharf building)

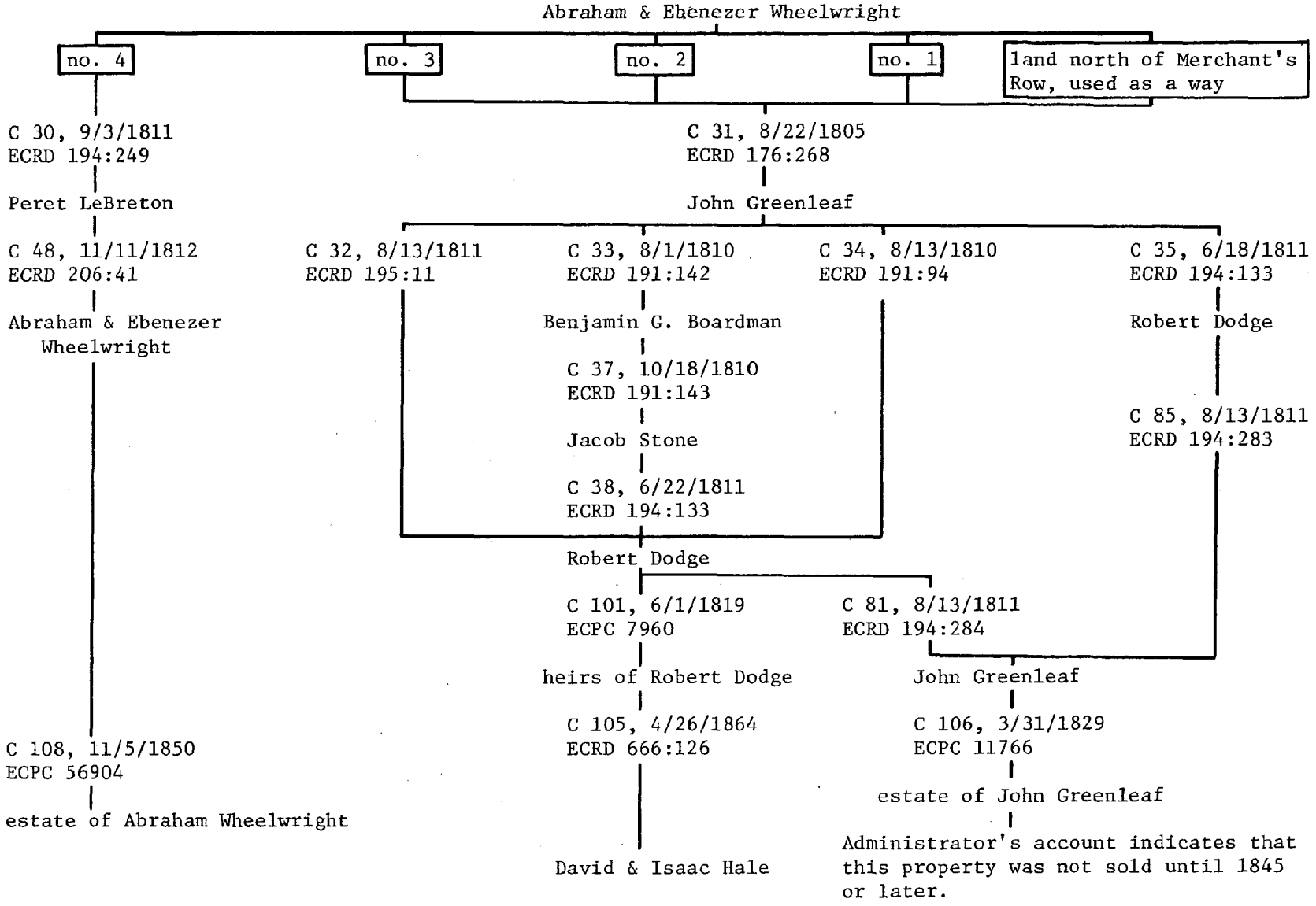
Abraham & Ebenezer Wheelwright

no. 1 Water St. Ferry Whf. bldg.	no. 3 Water St. Ferry Whf. bldg.	no. 5 Water St. Ferry Whf. bldg.	strip of open land behind the Ferry Wharf bldg. fronting on Ferry Way
C 23, 8/22/1805 ECRD 178:132	C 24, 1/1/1806 ECRD 177:189	C 25, 8/22/1805 ECRD not located	C 26, 10/21/1805 ECRD 178:95
Daniel Burnham	John Wood	Ephraim Titcomb	James Locke & Philip Bagley
C 57, 9/3/1817 ECRD 215:108	C 51, 11/14/1822 ECRD 231:151	C 42, 4/6/1810 ECRD 191:26	C 36, 7/15/1809 ECRD 186:244 u 1/2
David Stickney	Jacob Stone	John Wood	C 40, 10/25/1805 ECRD 178:96 mortgage A. & E. Wheelwright
C 62, 2/1/1820 ECPC 26484	heirs	C 55, 9/22/1823 ECRD 233:241	Joseph Bagley not located, u 1/2
Elizabeth Stickney et. al.	C 71, 7/24/1838 ECRD 308:103	Samuel Walton	not located John Wood & William Bailey
C 83, 5/13/1871 ECRD 5/13/1871	Merchant's Bank	C 67, 2/29/1823 ECRD 263:231	C 47, 12/4/1809 ECRD 192:115 u 1/2 mortgage
William Stone	C 87, 11/14/1839 ECRD 316:205	John & Judith Rogers	Philip Bagley
D 95, 9/1/1874 ECRD 917:162	Lois Edes et. al. C 88, 11/14/1839 ECRD 316:205	C 69, 10/14/1839 ECRD 358:270	John Wood C 100, 11/15/1822 ECRD 249:93 agreement
Peter Romily	Eleazer Johnson	Silas Chamberlin	C 56, 12/4/1832 ECRD 234:87 7' x 16' section later transferred in C 83 etc. see no. 1 Water St.
D 96, 3/13/1877 ECRD 971:260	heirs D 97, 7/1/1852 ECRD 463:167	C 73, 4/22/1848 ECRD 427:2	C 84, 11/29/1826 ECRD 243:184
Mary A. Woods	William P. Johnson	Dana Dodge C 76, 5/9/1850 ECRD 428:143 Jenness Brown	Eliz. Stickney et. al. Philip Bagley heirs C 90, 5/11/1850 ECRD 481:229 Jenness Brown

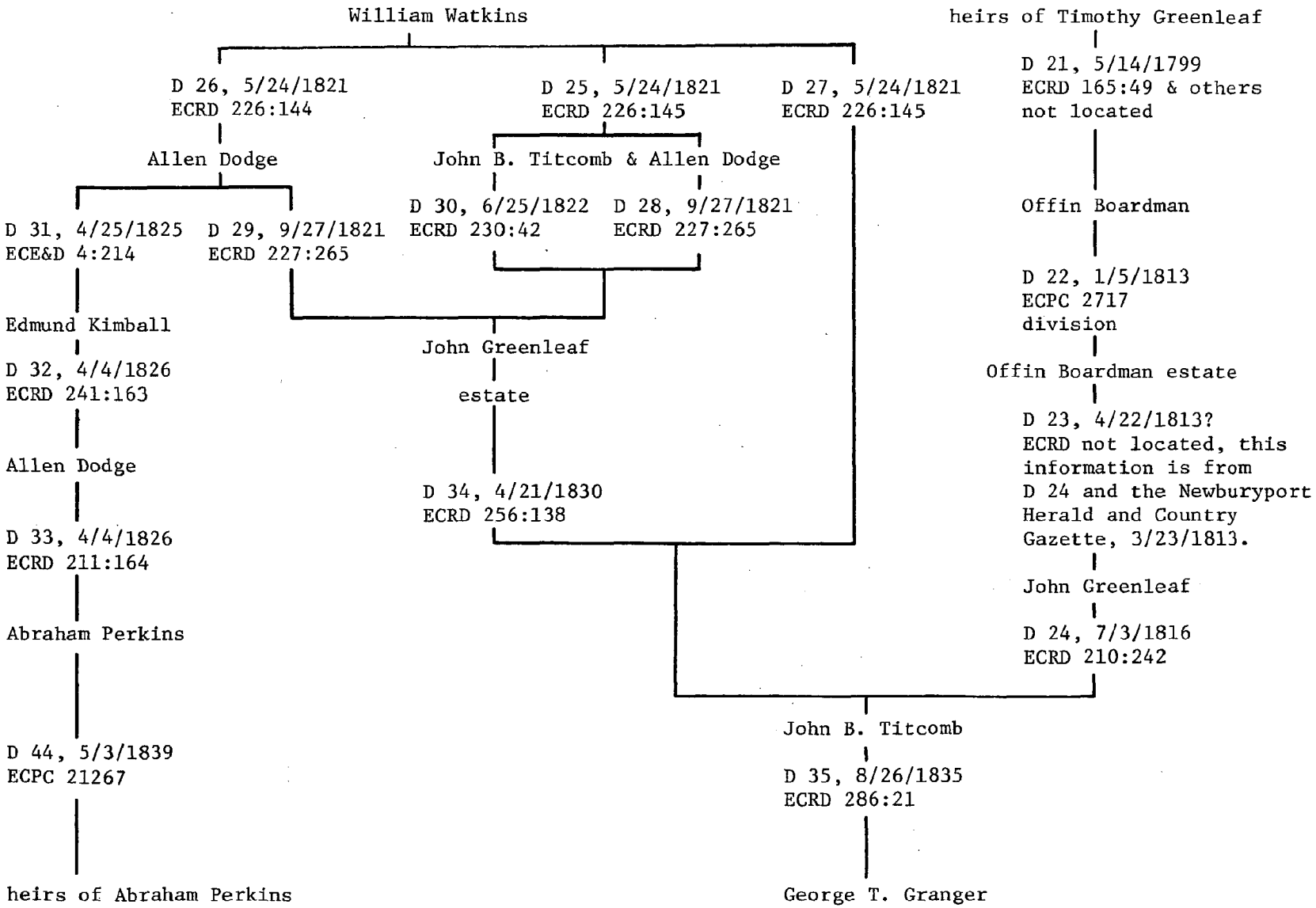
C (merchant's Row)



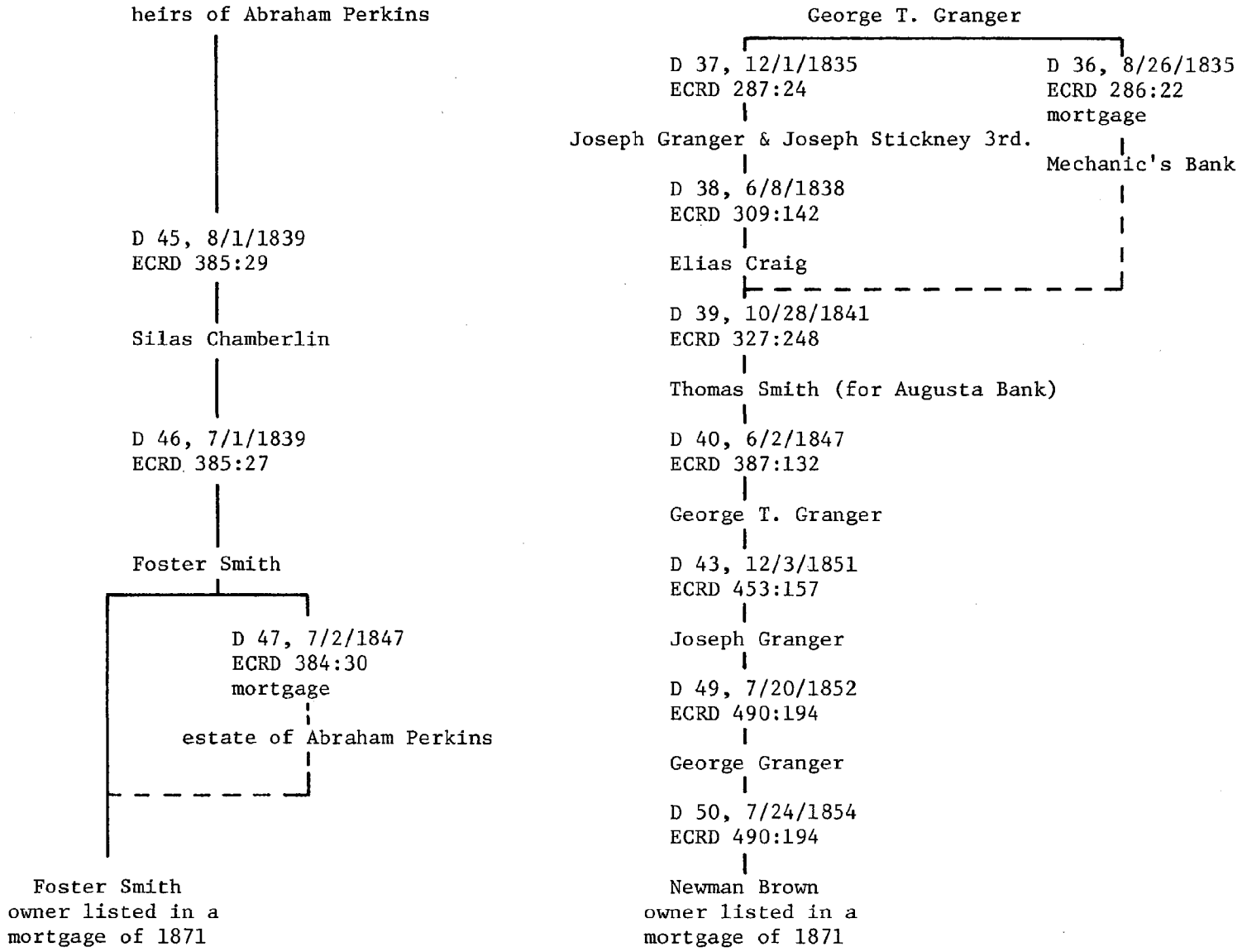
C (Merchant's Row)

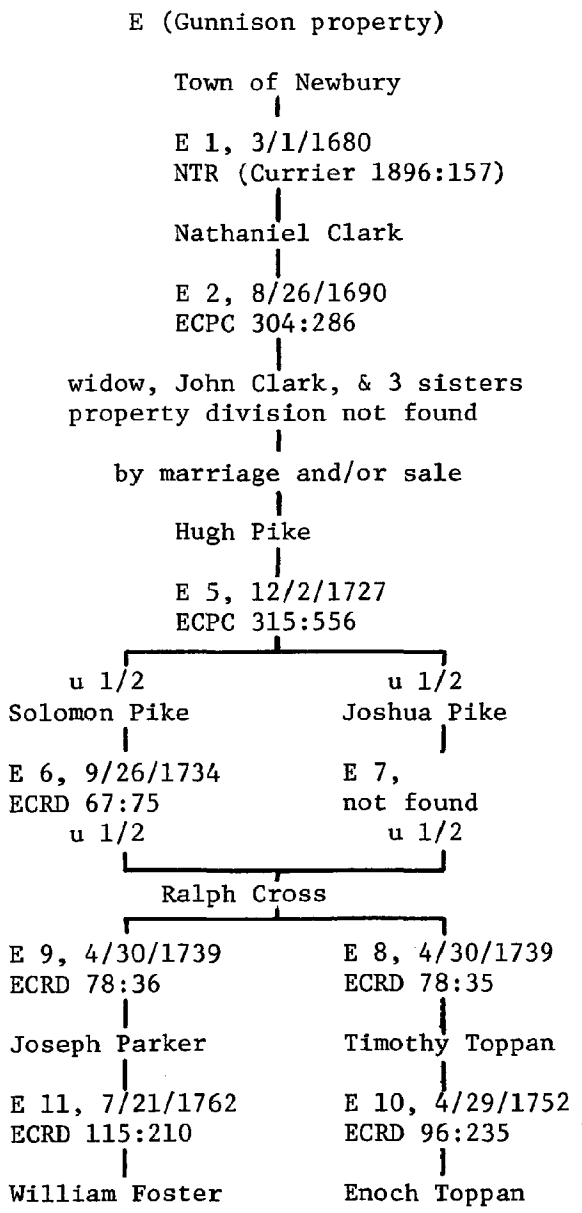


D (Granger property)



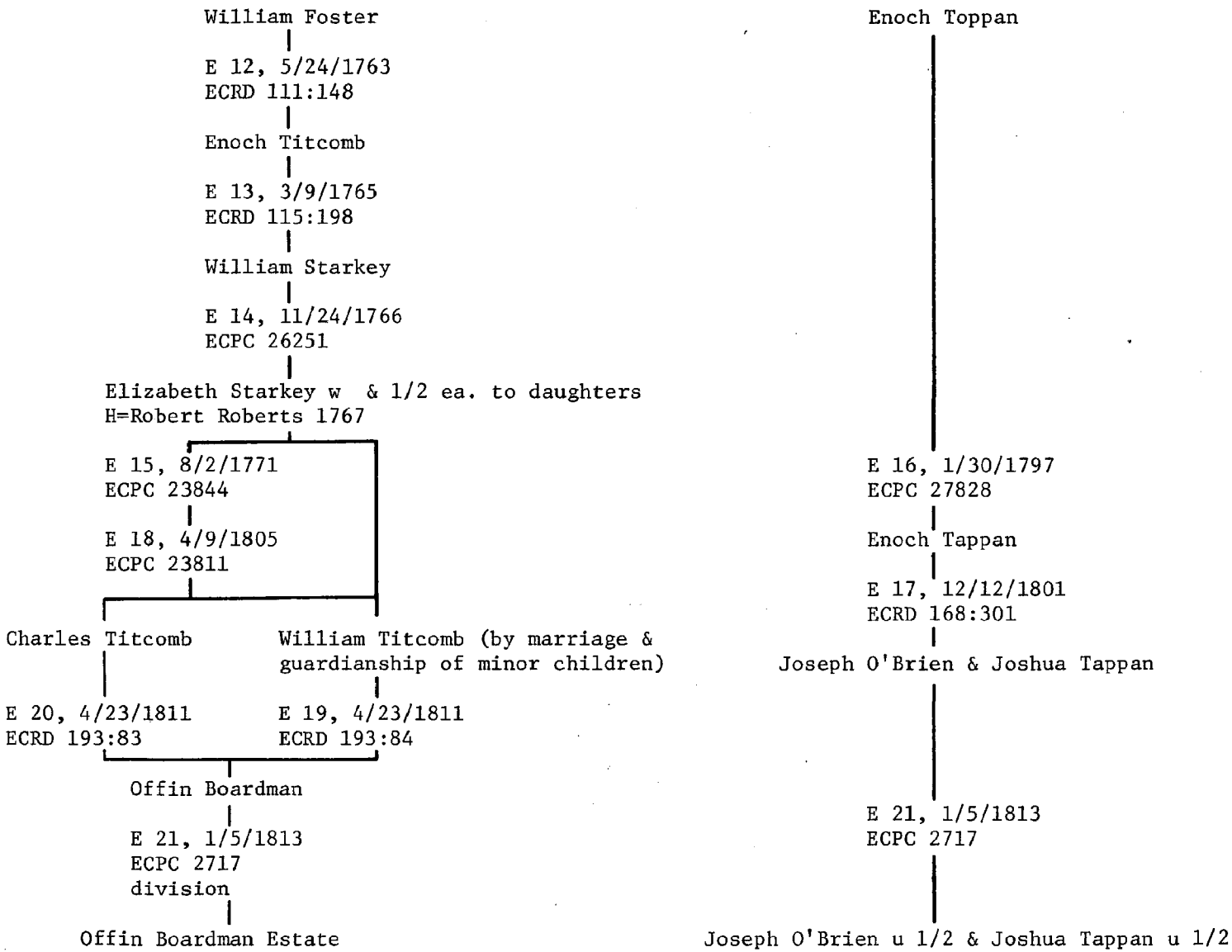
D (Granger property)



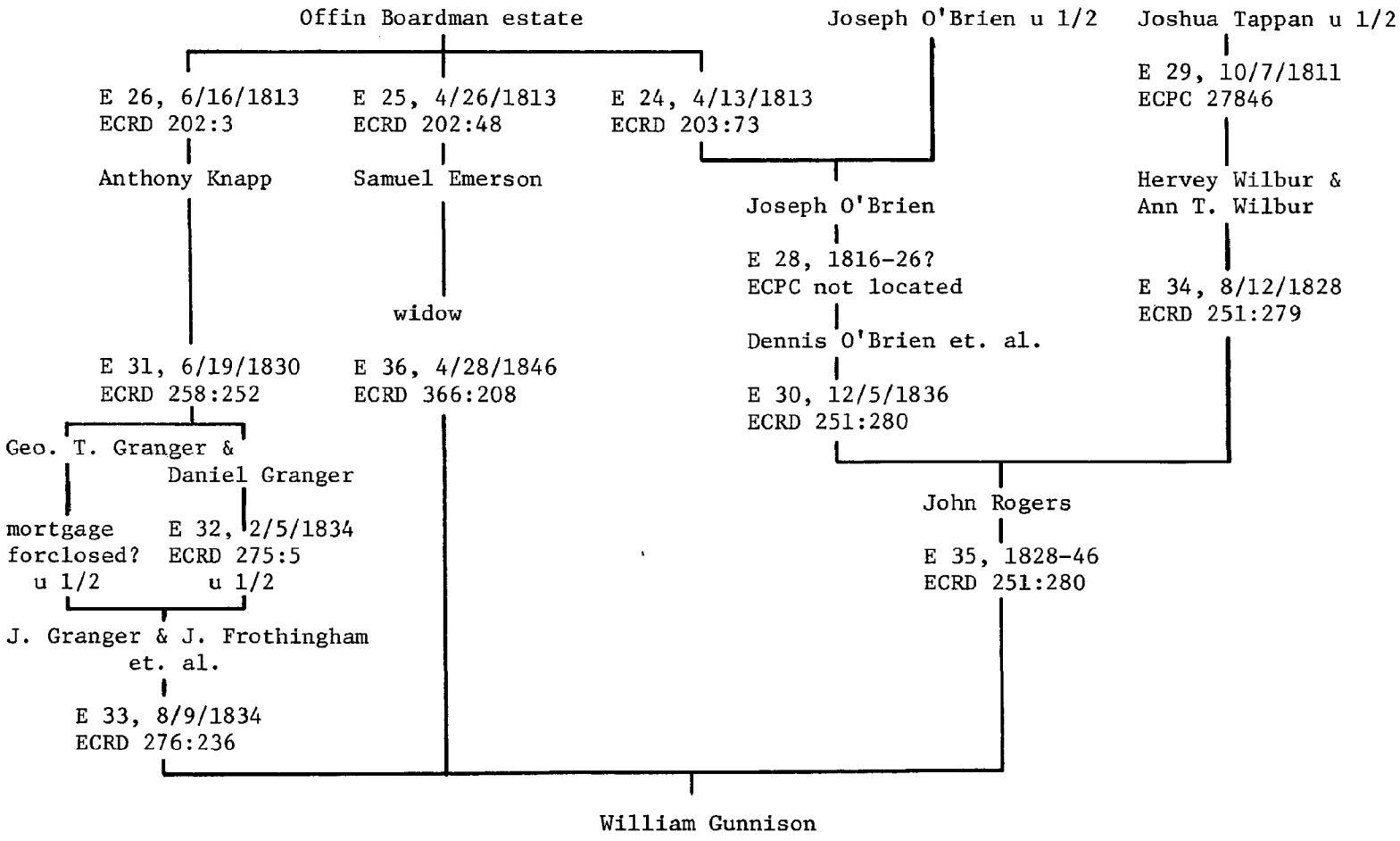


There is no formal division here, but the easterly 1/2 and the westerly 1/2 are owned by different parties until a formal division in 1813. See E 21 below.

E (Gunnison property)



E (Gunnison property)



E 37, 7/19/1849
ECRD 414:179
boundary agreement
between W. Gunnison
& G. T. Granger

APPENDIX C

CITY DIRECTORIES

A major portion of the forgoing report has been devoted to describing the principal commercial and residential land use patterns of the study area. No single source of information has been as helpful for this purpose as the Newburyport City Directories. The directories have been published periodically since 1849. They are privately printed publications, compiled from door-to-door canvasses of the households in the community. Each volume contains an alphabetical listing of the adult males and heads of households (including widows and spinsters) employed or residing within the port. Each entry includes an individual's name, his occupation (if any), place of employment (if applicable), and residence. For this report, the directories have a distinct advantage over the State and Federal censuses, for they link individuals and their businesses to specific addresses within the study area.

Unlike the State and Federal censuses, the directories do not attempt a complete enumeration of every individual present within the city at the time of the canvass. Excluded from the directories are children, most women, and a substantial number of transient individuals. Despite these omissions, the directories have proved to be an outstanding source of information for identifying individuals and businesses located within the study area and for establishing their length of tenure there. The directories were also used profitably in singling out area specific occupations and in reconstructing temporal profiles of the city's labor force (Fig. 9.3).

Table 9.1 lists those persons whom we have identified through the directories as residing in the study area in the years 1851, 1860, 1871, 1880, 1891, and 1901. Used in concert with the Federal census manuscripts, these materials offer valuable insights into the family structure of the indigent immigrants who once lived here.

Tables C.1 through C.6 list individuals who were employed in the study area in the same years as above. Even a casual study of these tables provides a general understanding of the types of activities taking place here. This information has been essential to our understanding of the commercial transformation of the Central Waterfront after 1872, which was discussed at the close of chapter 9.

Table C.1. Persons employed in study area as derived from City Directory, Newburyport, 1851.

Name	Occupation	Business	Residence
Adams, Charles E.	Butcher	1 City Market	h. 8 High
Adams, Richard	Butcher	2 Market House	h. Newbury
Bamford, Joseph A.	Fish Dealer	Market Landing	h. 16 Water
Bamford, Joseph A., Jr.	Fish Dealer	Market Landing	h. 5 Summer
Blake, Nathan B.	Butcher	Market House	h. 11 High
Boardman, I. H.	Merchant	4 Market Square	h. 49 Middle
Brombeck, Tallack	Rigger	7 Ferry Wharf	
Brooking, Thomas	Fish Dealer	Market Landing	
Brown, Jenness	Grocer	5 Water	h. 7 Water
Brown, Newman	Coal Dealer	Ferry Wharf	h. 2 Fruit
Caldwell, Abner	Hermetical Sealer	3 Ferry Wharf	h. 33 Lime
Carter, Jeremiah	Butcher	Market House	h. 31 Tyng
Chamberlin, Charles P.	Tin Plate Worker	8 Market Square	h. 14 South
Chipman, C.D.	Caulker & Graver	Hale's Wharf	h. Newbury
Clement, Isaac C.	Fruit & Refreshments	7 Market Square	h. 10 Charter
Coleman, Daniel	Butcher	3 Market House	h. Broadway, Nby.
Coleman, Alfred H.	Junk & Iron Store	9 Hale's Wharf	h. 8 Milk
Coleman, William	Butcher	3 Market House	h. Newbury
Cook, John	Notary Public	5 Market Square	h. 3 Independent
Creasey, William J.	Painter	12 Market Square	h. 23 Market
Creasey, Joseph B.	Painter	12 Market Square	h. 15 Carter
Curtis, Reuben S.	Grocer	4 Market Square	h. 7 Charter
Davis, Benjamin	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Davis, Benj., Jr.	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Davis, William A.	Sail Maker	Ferry Wharf	h. 32 Federal
Dennis, Amos	Fish Dealer	Market Landing	h. 11 Dove
Dockham, Stevens	Constable & Police	31/2 Mkt. Square	h. 66 State
Dorrill, Theodore	Sail Maker	11 Hale's Wharf	h. Pond
Goodhue, Joseph	Grocer	13 Market Square	h. So. Liberty
Goodwin, John B.	Grocer	10 Market Square	bo. 60 Lime
Granger, George T.	Lumber	13 Water	h. 13 Boardman
Gunnison, William	Grain Dealer	17 & 21 Water	h. 42 Liberty
Gunnison, Jesse	Grain Dlr.	17 & 21 Water	h. 20 Independent
Hale, George M.	Sail Maker	9 Hale's Wharf	h. 37 Milk
Hale, David	Dlr. Flour & Grain	Hale's Wharf	h. Water, Nby.
Hale, Isaac	Dlr. Flour & Grain	Hale's Wharf	h. Water, Nby.
Knapp, Joseph J.	Flour and Grain	7 Ferry Wharf	h. High, Nby.
Knight, John L.	Butcher	1 Market House	h. Newbury
Knight, George W.	Grocer	9 Market Square	h. 10 Purchase
Lunt, Benjamin	Grocer	9 Market Square	
Lunt, Enoch B.	Boat-Builder	Greenleaf's Whf.	h. South
Lunt, Capt. Micajah	Merchant	Ferry Wharf	h. High, Nby.
Nelson, David H.	Leather Dealer	9 Ferry Wharf	h. Adelphi
Nicholas, Samuel		5 Ferry Wharf	h. 53 Middle
Nicholas, William		5 Ferry Wharf	h. 5 Harris
Page, John	Cabinet Maker	Market Landing	h. 76 Water
Page, John T.	Blacksmith	15 Water	h. 9 Elm
Piper, Joseph	Boat-Builder	Greenleaf's Whf.	h. 16 Charles

Table C.1., Cont., 1851.

Plumer, Joseph	Grocer	6 Market Square	h. 9 Federal
Ryder, Reuben	Oysters	Under Market House	b. 22 Middle
Ryder, Joshua	Oysters	Under Market House	h. 4 Inn
Salter, Abel	Hairdresser	2 Market Square	h. 31 Prospect
Smith, Foster	Clothier	11 Water	h. 4 Smith's Ct.
Stockman, Henry & Son	Pump and Block	5 City Wharf	
Sumner, Ebenezer	Grocer	1 & 3 Water	h. 50 Middle
Swasey, W. H.	Grocer, Flour & Grain	1 & 3 Water	b. 30 Fair
Titcomb, Solomon	Butcher	2 Market House	h. Broadway, Nby.
Wills, Wm. T.	Hardware	11 Market Square	h. 105 Water

Table C.2. Persons employed in study area as derived from City Directory, Newburyport, 1860.

Name	Occupation	Business	Residence
Adams, Charles E. and Xenophon	Provisions	1 City Market	b. 8 High
Adams, Seneca	Flour & Grain	21 Water	h. Newbury
Balch, Ebenezer B.	Clerk	11 Market Square	h. 111 Merrimac
Bamford, Joseph A.	Fish	Market Landing	h. 41 Washington
Beckman, Horatio B.	Machinist	12 Market Square	h. 118 State
Blake, Nathan B.	Provisions	2 & 3 Market Square	h. 248 High
Blake, Nathan B., Jr.	Clerk	9 City Wharf	bds 248 High
Boardman, Isaac H.	Merchant	9 City Wharf	h. 104 State
Brombeck, Tallack	Rigger	7 Ferry Wharf	h. 10 Parson
Brown, Jenness	Grocer	5 Water	h. 7 Water
Brown, Newman	Coal	13 Water	h. 2 Fruit
Caldwell, Augustus	Hermetical Sealer	3 Ferry Wharf	h. 8 Birch
Clement, Isaac C.	Grocer	4 Market Square	h. 21 Fair
Clement, John M. W.	Clerk	4 Market Square	h. 35 Temple
Colman, William T.	Provisions	2 & 3 City Market	h. 19 Toppan
Cook, John	Notary Public	5 Market Square	h. 21 Middle
Cook, John D. (Poor & Co.)	Auctioneers	6 Market Square	h. 49 Lime
Cook, Moody D.	Auctioneers	6 Market Square	h. 12 Franklin
Creasey, Joseph B.	Painter	3 Water	h. 148 High
Creasey, W. J.	Painter	3 Water	h. 148 High
Davis, Benjamin, Jr.	Sail Maker	4 Ferry Wharf	h. 16 Spring
Davis, William A.	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Dennis, Amos	Fish	Market Landing	h. 11 Dove
Graves, Henry	Merchant	5 Ferry Wharf	h. 55 Liberty
Graves, William	Captain & Merchant	5 Ferry Wharf	h. 56 High
Hale, David	Grain	14 City Wharf	h. 21 Marlboro
Hale, George W.	Sail Maker	10 City Wharf	h. 44 Lime
Hale, Isaac	Grain	14 City Wharf	h. 182 Water
Hale, Isaac, Jr.	Express (Lynn)	6 Market Square	h. 14 Marlboro
Harris, Samuel	Fish	Market Landing	h. 26 Inn
Holker, William	Hardware	6 Market Landing	
Johnson, Joseph L.	2nd Hand Furniture	13 Market Square	h. 41 Temple
Knapp, George P.	Clerk (F & Gr.)	7 Ferry Wharf	bds 47 High
Knapp, Joseph J.	Merchant	7 Ferry Wharf	h. 47 High
Knight, Edmund	Meal	8 Market Square	
Knight, George W., Jr.		5 City Market	h. 13 Pond
Knight, James B.	Meal	8 Market Square	h. Newbury
Knight, Joseph H.	Meal	8 Market Square	
Lowell, Lewis	Clerk	4 Market Square	h. 71 Merrimac
Lunt, Micajah	Merchant	8 Ferry Wharf	h. 79 High
Mannix, James P.	Grocer	7 Market Square	h. 12 Inn
Morrill, Charles O.	Fruit & Veg.	4 City Market	h. 279 High
Page, John T.	Blacksmith	15 Water	h. 9 Elm
Plummer, William C.	Grocer	10 Market Square	bds 3 Orange
Rolfe, Ebenezer	Cabinet Maker	12 Market Square	h. 11 Spring

Table C.2., Cont., 1860.

Rolfe, Joseph N.	Flour & Grain	21 Water	h. Newbury
Romiley, Peter	Restaurant	1 Water	h. d'o
Stickney, Enoch P.	Grocer	10 Market Square	h. 64 Federal
Stockman, Edwin S.	Clerk	13 Market Square	b. 27 Washington
Stockman, Henry & Son	Pump & Blockmakers	5 City Wharf	h. 27 Washington
Stockman, Joseph H.	Pump & Blockmakers	5 City Wharf	b. 27 Washington
Titcomb, Calvin R.	Clerk	6 City Market	bds 144 State
Titcomb, Solomon	Provisions	6 City Market	bds 144 State
Waters, Francis	Umbrella Maker	11 Water	h. d'o
Welch, William	Constable	West end City Mkt. Bldg.	h. 37 Summer
Westcott, James P. L.	City Marshall	West end City Mkt. Bldg.	h. 17 Kent
Wills, Horace G.	Iron, Steel, etc.	9 Market Square	h. 228 High
Woodwell, David T.	Hardware	11 Market Square	h. 11.5 Spring
Woodwell, Joseph A.	Express (Lynn)	6 Market Square	h. 13 Madison

Table C.3. Persons employed in study area as derived from City Directory, Newburyport, 1871.

Name	Occupation	Business	Residence
Adams, Benjamin T.,	Provisions	4 City Market	b. 8 High
Adams, Charles E. & Co.	Provisions	4 City Market	b. 8 High
Adams, Xenophon	Provisions	4 City Market	b. 8 High
Balch, Eben G.	Clerk	11 Market Square	h. 13 Roberts
Bamford, George E.	Fish	Market Landing	h. 5 Winter
Bamford, Joseph	Fish	Market Landing	h. 41 Washington
Blodgett, Jesse G.	Variety Store	11 Water	h. 11 do.
Boardman, Isaac H.	Merchant	9 City Wharf	h. 104 State
Boardman, Thomas H.	Clerk	9 City Wharf	b. 104 State
Brown, Jenness	Grocer	5 Water	h. 7 do.
Brown, Newman	Coal	13 Water	h. 7 Fruit
Chesley, Daniel	Teamster	6 Market Square	b. Newbury
Clement, Isaac C.	Grocer	4 Market Square	h. 21 Fair, nr. Liberty
Colman, William T.	Provisions	3 City Market	h. 19 Toppan
Creasey, Edward K.	Clerk	3 Water Street	b. 148 High
Creasey, Joseph B.	Painter, Paints, etc.	3 Water Street	h. 148 High
Cummings, David M.	Brewer & Bottler	2 Market Square	h. 16 Temple
Currier, Howard P.	Furniture	6 City Wharf	b. 19 Milk
Davis, Benjamin G.	Sail Maker	4 Ferry Wharf	h. 13 Pike
Davis, William A.	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Dennis, Amos	Fish	3 Market Landing	h. 11 Dove
Dodge, Nathan (and Br.)	Manu. Misses & Ch. Shoes	19 Water	h. 84 Federal
Dodge, William H. P.	Manu. Misses & Ch. Shoes	19 Water	b. 37 Boardman
Donahoe, Michael	Laborer	6 Market Square	h. 41 Middle
Fields, James	Miller	6 Market Square	h. Newbury
Goodwin, Charles E.	Machinist	7 Ferry Wharf	h. 214 Merrimac
Goodwin, William, Jr.	Fish & Ham	3 Ferry Wharf	h. 43 Purchase
Gould, John H.	Brewer & Bottler	2 Market Square	h. 114 State
Hale, David (D. & I.)	Fish, Coal & Flour	14 City Wharf	h. 19 High
Hale, Isaac (D. & I.)	Fish, Coal & Flour	14 City Wharf	h. 19 High
Harris, Samuel	Fish	3 Market Landing	h. 26 Inn
Holker, William	Hardware	6 Market Square	
Knight, Charles B.	Clerk	6 Market Square	b. Newbury
Knight, Edmund	Flour, Grain & Meal	6 & 7 Mkt. Square	h. Newbury
Knight, Hale	Bookkeeper	6 Market Square	b. Newbury
Knight, James B. (& E.)	Flour, Grain, etc.	6 & 7 Mkt. Square	h. Newbury
Knight, Joseph	Salesman	6 Market Square	b. 19 High
Lunt, George	Treasurer, Amer. Low Water Reporter	9 Ferry Wharf	h. 54 High
Lunt, Micajah	Merchant	9 Ferry Wharf	h. 79 High
March, Samuel, Jr.	Flour, Groc. & Produce	10 Market Square	h. 24 Summer
Martin, Calvin P.	Pattern Maker	7 Ferry Wharf	h. 2 Eagle
Minigan, John	Laborer	6 Market Square	h. 3 Newbury

Table C.3., Cont., 1871.

Neal, William	Clerk	4 Market Square	b. 11 Temple
Perry, J. Albert	Foreman	19 Water	h. 27 Temple
Pillsbury, Francis M.	Driver	6 Market Square	h. Newbury
Pingry, Daniel	Bookkeeper	13 Water	h. 33 Middle
Rand, Edward	Clerk, Police Ct.	Market Hall	b. 11 Brown's Sq.
Robinson, William	Tugboat Office	4 Market Square	
Romiley, Peter	Restaurant	1 Water	h. 40 Market
Ryan, James	Mariner		h.r. 11 Water
Scully, Daniel	Teamster	6 Market Square	h. 3 Newbury
Steward, John B.	Fish Dealer	9 Market Square	h. 6 Prospect
Stockman, Henry & Son	Pump & Block Makers	5 City Wharf	h. 27 Washington
Stockman, John T.	Clerk	10 Market Square	b. 2 Pettingill Ct.
Stockman, Joseph H.	Pump & Block Maker	5 City Wharf	b. 27 Washington
Thurlow, Benjamin F.	7 Fish & Ham	3 Ferry Wharf	h. 4 Chase's Ct.
Titcomb, Solomon	Provisions	6 City Market	h. 144 State
Varina, George W.	Clerks at Nicholas'	8 Market Square	b. 43 High (h. 43 High)
Varina, Nicholas, Capt.	Com. Mer. & Flour	8 Market Square	nr. end Coal & Wood Wharf
Wallace, David	Laborer	6 Market Square	h. Newbury
Woodwell, David T.	Hardware	11 Market Square	h. 11.5 Spring
Woodwell, Louis E.	Clerk	11 Market Square	b. 11.5 Spring

Table C.4. Persons employed in study area as derived from City Directory, Newburyport, 1880.

Name	Occupation	Business	Residence
Adams, Washington	Commission Merchant	8 Market Square	h. 5 High
Anderson, John H.	Cook	1 Water	b. 1 d'o
Ayer, W. Perley	Proprietor, Chester House	1 Water	h. d'o
Bartlett, Andrew J.	Clerk	1 Water	b. d'o
Bishop, George P.	Harness Maker	1 Market Square	
Boardman, Frederick H.	Merchant	City Wharf	
Boardman, Thomas H.	Merchant	City Wharf	b. 104 State
Bruce, George D.	Clerk	17 Water	bds 13 Tyng
Colby, Daniel	Publisher	10 Market Square	
Conley, William	Engineer	13 Water	h. 24 Spring
Creasey, Edward K.	Paints, Oil & Glass	3 Water	bds 148 High
Creasey, Joseph B. & Co.	Paints, Oil & Glass	3 Water	h. 148 High
Creasey, Philip H.	Clerk	13 Water	h. 33 Winter
Cross, Henry M.	Coal	13 Water	h. High, c. Tremont
Currier, Howard P.	Boats to Let	City Wharf	h. 19 Milk
Davis, Benjamin G.	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Davis, William A. & Son	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Dixon, William	Tinsmith	6 Market Square	b. 36 Summer
Dodge, William S.	Carpenter	9 Ferry Wharf	h. 98 State
Donahoe, Martin	Saloon	11 Water	h. 11 d'o
Duffy, John	Saloon	5 Water	
Felker, James V.	Bookkeeper	13 Water	h. 65 Merrimac
Hale, Alfred	Auctioneer	9 Market Square	h. 99 State
Holker, John	Tinsmith	6 Market Square	h. 11 Beck, cr. Ship
Holker, William & Co.	Hardware & Stoves	6 Market Square	h. 9 Beck
Hoskins, Joseph	Painter	3 Water	h. 161 High
Howard, John L.	Hardware & Junk	17 Water	h. 15 Winter
Johnson, Joseph L.	Clerk	10 Market Square	b. 27 Washington
Kimball, Moses B.	Liquors	5 Water	b. Bradford
MacKinney, Thomas P.	Hardware	11 Market Square	h. 16 Essex
Magowan, David	Bottler	4 Market Square	h. 36 Market
Mannix, William H.	Clerk	13 Water	b. Forrester, op. School
March, Ebenezer W.	Clerk	13 Market Square	b. 18 Monroe
March, Samuel	Flour, Groc. & Prod.	13 Market Square	h. 21 Middle
Mulchahey, Charles	Mgr. Globe Soap Co.	7 Ferry Wharf	h. 200 High
Mulchahey, John	Globe Soap Co.	7 Ferry Wharf	h. 18 Strong
Noyes, Charles	Smokehouse	6 Ferry Wharf	h. 167 State
Ordway, Benjamin W.	Gun & Saw Rep.	8 Market Square	h. 284 High
Phila. & Reading Co.	Coal & Iron	13 Water	
Rolfe, Ebenezer	Cabinet Maker	5 City Wharf	h. 72 Middle
Stanley, Benjamin F.	Hardware & Junk	17 Water	h. 3 Ashland
Stanley, John C.	Hardware & Junk	15 & 17 Water	h. 30 Charter
Stockman, Henry & Son	Furniture	10 Market Square	h. 27 Washington
Stockman, Joseph H.	Furniture	10 Market Square	h. 31 Winter

Table C.4., Cont., 1880

Thurlow, Daniel D. & Co.	Fish	3 Ferry Wharf	h. 4 Chase's Ct.
Thurlow, Rufus	Fish	3 Ferry Wharf	h. 15 Oak
Tilton, Enoch J.	Clerk	13 Market Square	h. 26 Summer
Whiting, Thomas M.	Hairdresser	5 Market Square	h. Bromfield Ct.
Williams, Charles	Tinsmith	6 Market Square	b. 218 Merrimac

Table C.5. Persons employed in study area as derived from City Directory, Newburyport, 1891.

Name	Occupation	Business	Residence
Adams, John B.	Fish Dlr.	5 City Wharf	Willow Ave.
Agoos, Lazarus	Junk	3 Ferry Wharf	60 Middle
Andrews, Samuel A.	Tinsmith	6 Market Square	14 Neptune
Bayley, Harry W.	Bookkeeper	13 Water	44 Federal
Bowlen, James	Helper	6 Market Square	10 Federal
Boyd, Charles E.	Teamster	15 Water	6 Monroe
Bray, Albert A.	Driver, Hose #1	Market Square	Rooms, do.
Brock, George M.	Clerk	11 Market Square	b. 175 Merrimac
Brown, John S.	Engineer	13 Water	19 Winter
Bruce, George D.	Clerk	17 Water	b. 13 Tyng
Cashman, Daniel	Driver, H & L #1	Market Square	
Cogswell, Mrs. M.E.	Supt., Temperance Reading Room	9 Market Square	226 Merrimac
Conley, James R.	Engineer	13 Water	b. 42 Federal
Conley, William	Engineer	13 Water	h. 42 Federal
Costello, Richard	Shooting Gallery	5 Water	h. 51 Federal
Creasey, Joseph B.	Paints, Oil & Glass	3 Water	h. 148 High
Currier, Herbert	Salesman	5 Ferry Wharf	b. 14 Broad
Cutts, Fred H.	Supt. Essex Mfg. Co.	7 Ferry Wharf	b. 12 Tremont
Davis, Benjamin G.	Sail Maker	4 Ferry Wharf	h. 1 Horton, nr. Federal
Davis, Wm. A. (and Son)	Sail Maker	4 Ferry Wharf	h. 46 Liberty
Donahoe, Martin	Saloon	11 Water	h. do.
Dow, Edmund M.	Clerk	15 Water	h. Parker nr. State
Glennen, Richard	Tinsmith	9 Market Square	b. City Hotel
Gray, George C.	Restaurant	9 Market Square	h. do.
Haskell, Cyrus A.	Salesman	5 Ferry Wharf	b. 26 Olive
Holker, John W.	Tinsmith	6 Market Square	h. 11 Beck
Holker, Wm. & Co.	Tinsmiths, Stoves	6 Market Square (also 7 & 8)	h. 7 Beck
Hoskins, Joseph	Painter	3 Water	h. 161 High
Jacoby, Rudolph	Supt., P. & R. Coal and Iron	13 Water	h. 79 State
Jones, Edwin F.	Driver	5 Ferry Wharf	b. 34 Fair
Lowell, Lottie C.	Bookkeeper	15 Water	b. 42 High
Macintosh, Fred L.	Clerk	13 Water	b. 1 Milk
MacKinney, Thomas P.	Hardware, etc.	11 Market Square	h. 16 Essex
Maguire, James	Tinsmith	6 Market Square	h. 52 Liberty
March, Eben W.	Clerk	13 Market Square	h. 22 Market
March, Samuel	Grocer	13 Market Square	h. 21 Middle
Meinarth, Carl	Music Tr.	12 Market Square	h. do.
Merrill, Philip S.	Salesman	5 Ferry Way	b. New, nr. Mosely Ave.
Mullins, Harry	Laborer	13 Water	
Newton, Fred G. & Co.	Fish	1 & 3 RR Ave.	b. 107 Merrimac
Pearson, Alonzo C.	Engineer	13 Water	h. 10 Unicorn
Peavy, George H.	Tinsmith	9 Market Square	h. 11 Atwood

Table C.5., Cont., 1891.

Perkins, Henry R.	Prop. Eagle Chem.	7 Ferry Wharf	h. 134 State
Plumer, Henry J. & Co.	Stoves, Tinware	9 Market Square	b. 20 Bromfield
Prince, Calvin F.	Clerk	15 Water	b. 59 Washington
Roaf, George M.	Whsale Provisions	5 Ferry Wharf	b. 318 High
Roberts, Edward A.	Tinsmith	6 Market Square	b. 27 Middle
Rolfe, Ebenezer	Cabinet Maker	5 City Wharf	h. 50 Federal
Stanley, John C.	Hardware, Junk, etc.	15 & 17 Water	h. 236 High
Stockman, Joseph H.	Stoves, etc.	10 Market Square	h. 31 Winter
Thurlow, D.D.	Fish	3 RR Ave.	h. Chase's Ct.
Thurlow, Rufus	Fish	3 RR Ave.	h. 15 Oak
Turple, John W.	Clams	Ferry Wharf	h. State, nr. the line
Wilkenson, George	Watchman	13 Water	h. Brown, nr. State

Table C.6. Persons employed in study area as derived from City Directory, Newburyport, 1901.

Name	Occupation	Business	Residence
Baby Shoe Co.	Inf. Shoe Manu.	r. 11 Market Sq.	
Barrett, Joseph H.	Clerk	15 Water	h. r. 17 Kent
Bayley, Harry W.	Bookkeeper	13 Water	h. 65 Bromfield
Binley, William		3 City Wharf	h. 34 Prospect
Boyd, Charles E.	Clerk	13 Market Square	h. 41 Boardman
Bray, Albert E.	Driver, Hose #1	Market Square	h. 38 d'o
Bridges, John A.	Baker (Nabisco)		h. 12 Jackson
Bridges, John A., Jr.	Baker (Nabisco)		b. 12 Jackson
Brown, James F.	Grocer	13 Market Square	h. 47 Bromfield
Brown, Rufus	Baker (Nabisco)		h. Ring's I.
Bruce, George D.	Superintendent	r. 17 Water	b. 8 Strong
Buzzel, John A.	Baker (Nabisco)		h. Salisbury
Carter, John N.	Driver (Nabisco)		h. 24 Olive
City Grist Mills		r. Market Square	
Conley, James R.	Engineer	13 Water	h. 39 Milk
Conley, William	Wharfinger	13 Water	h. 42 Federal
Currier, Herbert	Salesman	5 Ferry Wharf	h. 6 Magnolia
Curtis, Francis	Supt., Sewers & Mech. Engineer	3 City Wharf	h. 3 Park
Davis, Benjamin	Sail & Tarp Maker	4 Ferry Wharf	
Davis, James W.	Clerk	5 Ferry Wharf	h. r. 7 Kent
Davis, William A.	Sail & Tarp Maker	4 Ferry Wharf	h. 1 Horton
Dow, Edmund M.	Clerk	15 Water	h. Parker nr. State
Duffy, John	Liquors	5 Water	h. 48 Franklin
Eagle Chemical Co.		7 Ferry Wharf & 62 State	
Gowans, John H.	Clerk	5 Ferry Wharf	h. 23 Ship
Gowdy, Frank	Clerk	11 Market Square	b. 14 School
Haskell, Cyrus A.	Salesman	5 Ferry Wharf	h. 26 Olive
Holker, Hattie	Bookkeeper	15 Water	b. 6 Orange
Holker, William	Stoves & Hardware	15 - 17 Water	h. 6 Orange
Jacoby, Joseph L.	Shipper	13 Water	h. 33 Bromfield
Jacoby, Rudolph	Superintendent	13 Water	h. 7 Orange
Kent, George O.	Steamfitter & Locksmith	4 Market Square	h. Storey, Nby.
Knowles, Fred W.	Steamfitter & Locksmith	4 Market Square	h. Salisbury
Landers, Charles H.	Driver	6 Market Square	h. 37 Warren
Langley, Harris W.	Treasurer (Furniture Bus.)	6 - 10 Market Sq.	b. 11 Spring
Langley, William C., Jr.	President (Furniture Bus.)	6 - 10 Market Sq.	h. 11 Spring
Larner, John	Tinsmith	15 Water	b. 52 Prospect
Levin, Eli	Junk	2 Ferry Wharf	h. 8 Merrimac
Macintosh, Fred L.	Fireman	13 Water	h. 29 Purchase
McKinny, Robert J.	Undertaker	5 Market Square	b. 24 Spring

Table C.6., Cont., 1901.

Merrimack Specialty Manufacturing Co. Novelties		3 City Wharf	
Morse, Charles A.	Clerk	13 Water	b. 5 Parsons
Mullins, Henry	Engineer	13 Water	h. 12 Dalton
Noyes, George E.	Clerk	13 Market Square	h. 1 Green
O'Connell, Michael J.	Clerk	5 Water	h. 4 Atwood
Pearson, Alonzo C.	Engineer	13 Water	h. 41 Kent
Perkins, Henry R.	Proprietor (Eagle Chem.)	7 Ferry Wharf	h. 62 State
Phila. & Reading Co.	Coal	13 Water	
Potter, Ernest	Salesman	5 Ferry Wharf	h. 315 High
Roaf, George M.	Wholesale Provisions	5 Ferry Wharf	b. 318 High
Rolfe, Ebenezer	Cabinet Maker	3 City Wharf	h. 50 Federal
Saltinsky, Morris	Junk Dealer	3 Ferry Wharf	h. 11 Water
Seaman, Abram & Co.	Junk	r. 17 Water	b. Wolfe Tavern
Toppan, William C.	Hardware & Bicycles	11 Market Square	h. 42 Kent
Wilson, Albert P.	Hardware & Bicycles	11 Market Square	h. 15 Horton

APPENDIX D

HISTORIC EARTHQUAKES OF NEWBURYPORT, MASSACHUSETTS

> June 1st., 1638. Being this day assembled to treat or consult about the well ordering of the affairs of the towne, about one of the clock in the afternoone, the sunn shining faire, it pleased God suddenly to raise a vehement earthquake coming with a shrill clap of thunder, issuing as is supposed out of the east, which shook the earth and the foundations of the house in a very violent manner to our great amazement and wonder, wherefore taking notice of so great and strange a hand of God's providence, we were desirous of leaving it on record to the view of after ages to the intent that all might take notice of Almighty God and feare his name (NTR 1658; Coffin 1845:26).

The Newburyport area is unique in Massachusetts, being by far the most seismically active region within the state. Two major earthquakes, in 1727 and in 1755, have been experienced here, as well as over eighty tremors of lesser intensity. Many of these earthquakes are believed to have had their epicenters in the immediate vicinity.

In their paper on the seismic history of Massachusetts, Devane and Holt (1967) mapped the probable epicenters of the earthquakes recorded in southern New England between 1574 and 1965. They estimated the severity of each quake from the damages reported in contemporary accounts of the event, using the Modified Mercalli Intensity Scale as their index. Based on Devane and Holt's paper, Fig. D.1 depicts the location of each quake whose epicenter was located with Massachusetts. Earthquakes with an estimated intensity of V or greater are so indicated on this map. The epicenters of 68 percent of all the earthquakes represented on Fig. D. 1 fall within a five mile radius of Newburyport.

Shocks emanating from epicenters located outside northeastern Massachusetts have also been felt in Newburyport. Most notable of these was the earthquake of November 18, 1755, which originated off the coast, east of Cape Ann. This earthquake did extensive damage all along the coast of northern Massachusetts (Winthrop 1757; Earthquake History of the United States 1973). Devane and Holt have suggested that this quake and others indicate that a major epicentral area exists 50 miles northeast of Newburyport on the Continental Shelf.

The first earthquake reported from the Newburyport area occurred on June 1, 1638, an account of which appears above. The greatest earthquake originating from Newburyport was recorded on Sunday, November 9, 1727. The magnitude of the initial shock from this quake has been estimated at between intensities VIII and IX on the Modified Mercalli Intensity Scale (Earthquake History of the United States 1973:5; Fischer and Fox 1967:385). It was followed for several months by frequent severe aftershocks, with intensities as high as VI (Fischer and Fox 1967). A remarkable and sobering account of the initial quake and the aftershocks of the following three weeks appears in the records of the Episcopal Church of Newburyport. The following is extracted from that account.

> Being the Lord's day at forty minutes past ten the same evening, there was a most terrible, sudden, and amazing earthquake, which did

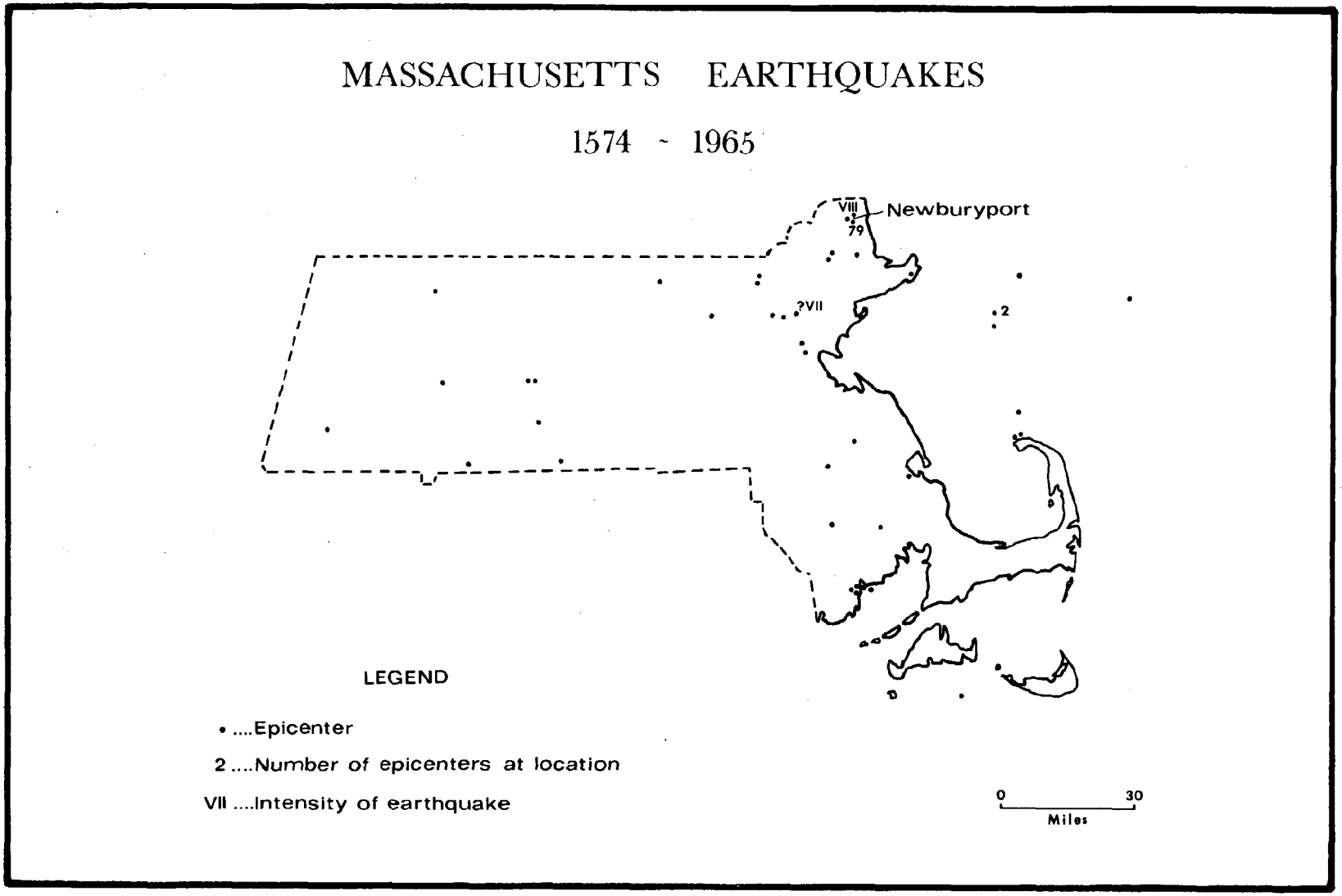


Fig. D.1. Recorded earthquakes in Massachusetts. Intensities are given on the Modified Mercalli Intensity Scale. The epicenters of more than two-thirds of the earthquakes represented cluster within five miles of Newburyport.

> damage to the greatest part of the neighborhood, shook and threw down tops of chimnies and in many places the earth opened up a foot or more. It continued very terrible by frequently bursting and shocking our houses and lasted all that week (November 9-15) sometimes breaking with loud claps six times or oftener in a day and as often in the night until Thursday in the said week and then somewhat abated. Upon Friday in the evening and about midnight, and about break of day and on Saturday there were three very loud claps. We also had it on Saturday, the sabboth, and on Monday morning about ten, ... upon every day or night more or less three, four, six times each day ... in all which space of time some claps were loud, others seemingly at a distance much abated. Upon Monday two hours before day a loud burst and at half past two in the afternoon another burst was hurd somewhat loud.... The first shock opened a new spring by my father Samuel Bartlet's house in the meadow and threw up in the lower grounds in Newbury several loads of white sand. After that some loud claps, shocking our houses... (Coffin 1845:197-98).

During the following twenty years, no fewer than 58 earthquakes were recorded in Newburyport's town and church records (Coffin 1845). Some of these shocks probably originated in the St. Lawrence Valley, or off the coast of New New England on the Continental Shelf. Others were obviously of local origin.

In the early morning hours of November 18, 1755, Newburyport was rocked by the most severe shocks ever recorded in New England. Tremors from this earthquake were felt as far away as "... Lake George, N.Y. to a point at sea 200 miles east of Cape Ann, and from the Chesapeake Bay to the Annapolis River, Nova Scotia, ..." covering an area of approximately 300,000 square miles (Earthquake History of the United States 1973:9-10). Aftershocks from this earthquake continued to rattle the houses of Newburyport for the next three days, and were followed by another series of shocks one month later (Coffin 1845:222).

Earthquakes were reported in Newburyport with decreasing frequency through the rest of the 18th century, and little or no damage occurred. Tremors have been felt in the city since 1800, but infrequently. None of the quakes since have exceeded VI on the Modified Mercalli Intensity Scale, and most were V or less. In Amesbury, minor structural damage was, however, attributed to one earthquake which occurred on October 16, 1963 (Earthquake History of the United States 1973).

APPENDIX E

TOPOGRAPHY

The accompanying map, Fig. E.1, gives the topographic details of the Newburyport Central Waterfront as mapped during the recent redevelopment program. The countours, given in one foot intervals, were taken after major episodes of demolition, and the most striking features of this new landscape are the temporary and relatively meaningless outlines of demolition rubble and gouges made in the land surface by earthmoving equipment. During the process of this project, the ground surface was similarly disrupted, and the countours changed daily, especially in the vicinity of seawall construction.

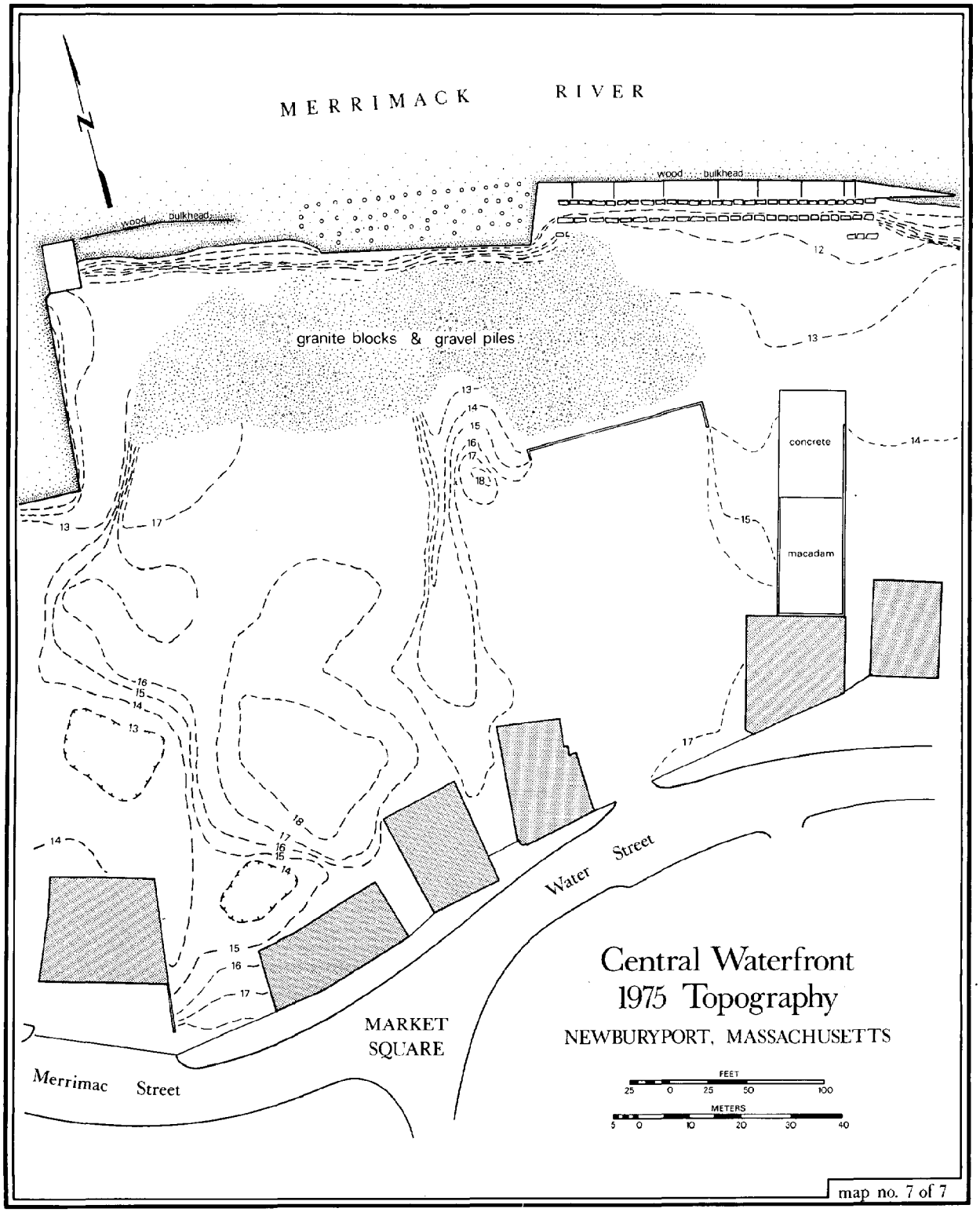


Fig. E.1. Landscape of the Central Waterfront during redevelopment.

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