2009.602.31

HISTORIC CHARLESTON FINISHES STUDY

CHARLESTON, SOUTH CAROLINA

Prepared by:

George T. Fore, Jr.
George T. Fore & Associates
P.O. Box 12801
Raleigh, North Carolina 27605

In association with:

David R. Black
Black & Black
Preservation Consultants
620 Wills Forest Street
Raleigh, North Carolina 27605

February, 1986

Introduction

Any investigator hoping to unravel, by physical examination, the history of finishes applied to Charleston's buildings encounters a daunting and almost unique set of circumstances. The city has been been exposed to numerous tropical storms, fires, floods and an artillery bombardment, not to mention the great earthquake. The tides of fashion have also swept over Charleston periodically, as have ups and downs in prosperity. All of these factors militate against the survival of the fabric of the buildings themselves, let alone the preservation of comprehensable paint chronologies.

Bearing all of this in mind, we set about examining fifteen buildings in the historic area. Fifteen out of the hundreds of structures put up in Charleston during the last two centuries which have survived is much too small to claim anything like a representative sample. The results of this investigation are only suggestive, and far from the last word about Charleston finishes. Much remains to be learned before any generalizations can be made honestly. When fifteen or twenty buildings of each period and type have been explored, then one can begin to speak of typical Charleston treatments.

Given the limited scope of this project, some care was taken in selecting the structures to be sampled. The staff of Historic Charleston, Inc., drew up a list of possible buildings which were inspected jointly with the Consultants. An attempt was made to pick houses which showed a high percentage of apparent original material and a reasonably dense paint history. Neither of these criteria are easy to apply during casual observation, even for experienced eyes, and subsequent research turned up substantial evidence for major alterations, as well as major paint removal, on a number of the houses.

An attempt was also made to come up with three rough groups of buildings by age; the earliest, 18th century structures which seemed to have substantial original material, very late 18th and early 19th century houses, and a handful of antebellum residences. In this way some comparisons could be made. In reality, most of the buildings yielded information about changing tastes through their subsequent repaintings.

Like archeologists, architectural conservators work through stratigraphy, noting the layers as they are laid down and trying to relate similar layers in different areas. Unfortunately, our forefathers didn't always paint everything on a building at once. Painting was a relatively expensive, labor-intensive process, and an element that had a decent coat of paint on it might not get repainted. A particular layer may also be missing from some of the samples due to weathering or paint removal, complicating the relative chronologies.

For these reasons, the most reliable color schedules are derived from either the first painting, or from the first painting

following a major renovation. Thus the only complete paint schedules in this report fit in those categories. In some cases it might have been possible to fill out color schedules from other periods, but the amount of labor involved in sorting them out comprehensably was beyond the scope of the project.

Good sampling is at the heart of successful paint research. At least one element in every class of elements must be sampled, and preferrably more than once, and in different locations on the building. Care must be taken to look for areas sheltered from weather, while keeping in mind that sheltered areas like those under galleries may have color systems different from the rest of the exterior of the house.

Basic sampling technique involves cutting through all of the paint layers down to the substrate, and removing some of the substrate, too, if possible. Though the original finish may have weathered away before repainting, or have been removed intentionally, there are almost always traces of it embedded in a wooden substrate. Individual samples are placed in keyed envelopes.

Each sample was examined carefully under the microscope, often several times. For this project we used Nikon SMZ2 and SMZ2B binocular microscopes at magnifications from 15x to 75x with fiber optic halogen illuminators. Various reagents were used to determine specific qualities of pigments and binders: sodium sulphide to indicate lead-based pigments, hydrochloric or acetic acid to determine lime-based washes, etc. Oil-based coatings were treated with acrylic or spirit varnishes to restore their reflectivity before color matching.

Color matching was carried out under the microscope using the Munsell Universal Color System, glossy and matte collections. The Munsell system is the most widely-used of color notation systems and provides a consistent method of recording and reproducing colors.

Some general conclusions can be reached about the information gathered in examining these 15 buildings. The two earliest groups of exteriors showed a preponderance of color schemes based on white, off-white, light creams, grey-creams or light tans. We did not discover the rich reds, greys, browns and ochre yellows which are common in the 18th century. In fact, there was little use of ochre at all, though the pigment was cheap, readily available and in wide use throughout the century. The richest 18th century color scheme was that of the Gibbes House, which was painted a sandstone-like red-cream.

A cluster of buildings appeared to have had, at the turn of the 19th century, white or off-white bodies with black, grey or grey-blue used for window surrounds and friezes, etc. The result would have been an almost Wedgewood look, and in all likelihood there are precedents for such treatments in English Regency architecture.

Surprisingly, several of the early to mid-19th century houses originally had black-painted window sash, a treatment more commonly seen in early 20th century houses. A possible explanation for this is the desire to make the areas of glass seem larger and more continuous, much as in some areas of the country the putty around Georgian window sash is painted black.

Early shutters which survived showed white or dark grey as a finish color. The earliest building, 89 Wentworth, originally had no shutters or blinds at all. The first set of green shutters or blinds in the study appeared about 1820, although the Aiken-Rhett House seems to have had Prussian blue ones a bit earlier. Like antebellum blinds in most places, blinds in this study were bright green or olive green, not blue-green.

In common with houses in the Gulf coast, the area under the galleries was in several cases treated almost as an interior room, with a set of finishes distinct from those of the exposed portions of the exterior. The most dramatic evidence of this was at 56 Church Street, where a post-bellum gallery scheme involved lilac and grey.

Three of the houses showed ante and post-bellum use of sanded paints. Blowing fine white sand (or as in the case of the Edmondston-Alston house, fine black pumice) against wet oil-based paint is a technique that was in frequent use from the late-18th through much of the 19th centuries. It imparted a stone-like appearance to wood elements, and not incidentally increased the life and fire resistance of the paint coat. The technique was most often used to imitate brown sandstone, or brownstone, a fashionable building material of the mid-19th century.

In general, the mid-19th century schemes showed an increasing use of rich earth colors--tans, deep creams, yellow-browns, red-browns, pinks and reds. The color schemes are darker, and even on the frame houses have the appearance of masonry.

A modest amount of graining and marbellizing, that is, painting surfaces in imitation of wood grain or marble, showed up in the study. The graining of both interior and exterior doors was almost a standard practice in the 18th and 19th centuries, and most of the houses had doors that had been grained not just once, but repeatedly. Mahogany or rosewood were the most common woods simulated, but during the antebellum period golden oak and walnut were also imitated.

Other than doors, we did not discover substantial amounts of early graining or marbellizing in the three interiors which were studied. The Edmondston-Alston House had one room of oak-grained wainscot, as did the Middleton-Pinckney House, both during the antebellum period. Neither set of grainings was particularly sophisticated in execution. The black marbellizing of the baseboards at the Edmondston-Alston House was the only marbellizing discovered.

More interesting were a number of suggestions of graining used on the exteriors of houses; the window sash at the Middleton-Pinckney House, the gallery columns at the Isaac Bennett House and the Fullerton House. The window sash at the Edmondston-Alston House were clearly also once grained mahogany.

Much work remains to be done toward documenting the palettes used in Charleston during the 18th and 19th centuries, both through physical research and in documentary resources. Comparing the information uncovered in this study with our own experiences with similar structures throughout the southeast, we have come to believe that, while Charleston shares much with similar cities of the period, it has its own distinctive history of finishes that reflects the unique influences that have shaped its buildings.

George T. Fore, Jr.
David R. Black

Interior and Exterior

89 Wentworth Street

The Georgian house at 89 Wentworth is one half of a double house thought to have been constructed ca. 1740. Though its mirror companion, 87 Wentworth, has been extensively altered, including the construction of an additional floor, number 89 appears to be well-preserved. Most importantly for this study, the painting history of all major elements is intact. Minor alterations include the addition at the rear of a small structure presently used as the kitchen; the alteration of two rear windows in the dining room into doors, one leading into the kitchen addition and one opening onto a piazza extension; the construction of a bathroom over the single-story piazza; the replacment of the piazza ceiling; the addition of window shutters and blinds; and the almost complete removal of the paint in the first floor parlor.

An analysis of the original exterior finishes applied to 89 Wentworth revealed a simple scheme, employing a subtle effect of color. The brick construction of the house is finished with stucco quoins at the house corners and surrounding the street entrance opening to piazza, and with scored stucco on the general wall areas. The brick base below the water table is not stuccoed, and appears to have originally been of exposed brick. All of the stucco surfaces, including the walls, quoins, the cornice with blocks and the molded gable rake, were initially finished with a white lime wash containing fine, clear quartz (Munsell N 9.25, matte). Window and door frames, the sash and the original piazza columns were painted with a lead white paint (Munsell 5Y 9/0.5). Entrance doors to the piazza and to the house were originally painted a dark red/brown (Munsell 10R 2/4).

Three major areas of the interior of 89 Wentworth were chosen for finishes analysis. The center hall, both at the first and second floor levels, the first floor dining room to the rear, and the second floor library at the street front were selected for their intact paint histories.

Woodwork of the central hallways was found to have been painted almost entirely with the same red (Munsell 10R 2/4) as was applied to the exterior doors. Exceptions were the baseboards and door surround plinth blocks which were painted black (Munsell N 0.75). Both the dining room and library woodwork was finished with a yellow/grey (Munsell 5Y 5/2) applied to all elements except the baseboards and plinth blocks, which were painted black (Munsell N 0.75). All of the plasterwork in these areas appears to have been originally finished with a lime finish plaster coat.

The documented interior paint scheme is a fairly common one for the Georgian period, having been discovered by the researchers in several modest structures of similar date which they have examined. What is notable is the simplicity of the finish pattern. More commonly, the chair rail cap is painted a

contrasting color, with the black band at the baseboard level continuing across all elements at this height: mantels, surrounds, cabinets, door bottom rails, etc. The use of a near monochromatic pattern at 89 Wentworth is a reminder that typical or set patterns and colors cannot be assumed for architectural periods or styles.

Color Schedules

Ca. 1740 Exterior

All stuccoed masonry surfaces--walls, quoins, cornice: sanded white lime (Munsell N 9.25 matte)

All woodwork, excluding doors--surrounds, piazza elements: white (Munsell 5Y 9/0.5)

Doors: red/brown (Munsell 10R 2/4)

Masonry base below water table: exposed brick

Ca. 1740 Interior

First and second floor stair halls--all wood elements excluding baseboards and plinth blocks of surrounds: red/brown (Munsell 10R 2/4)

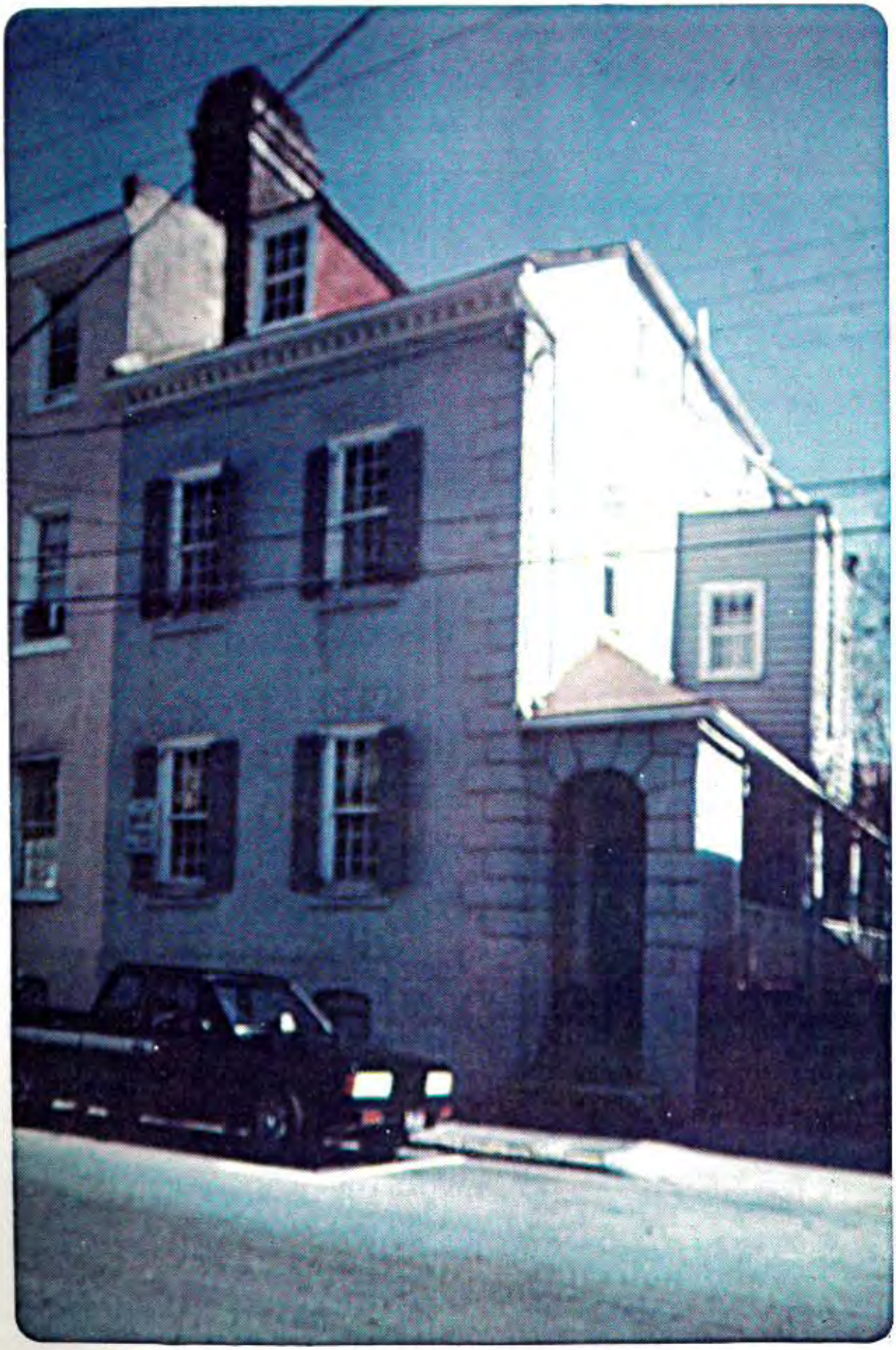
Baseboards and door surround plinth blocks: black (Munsell N 0.75)

All plaster: white plaster finish coat

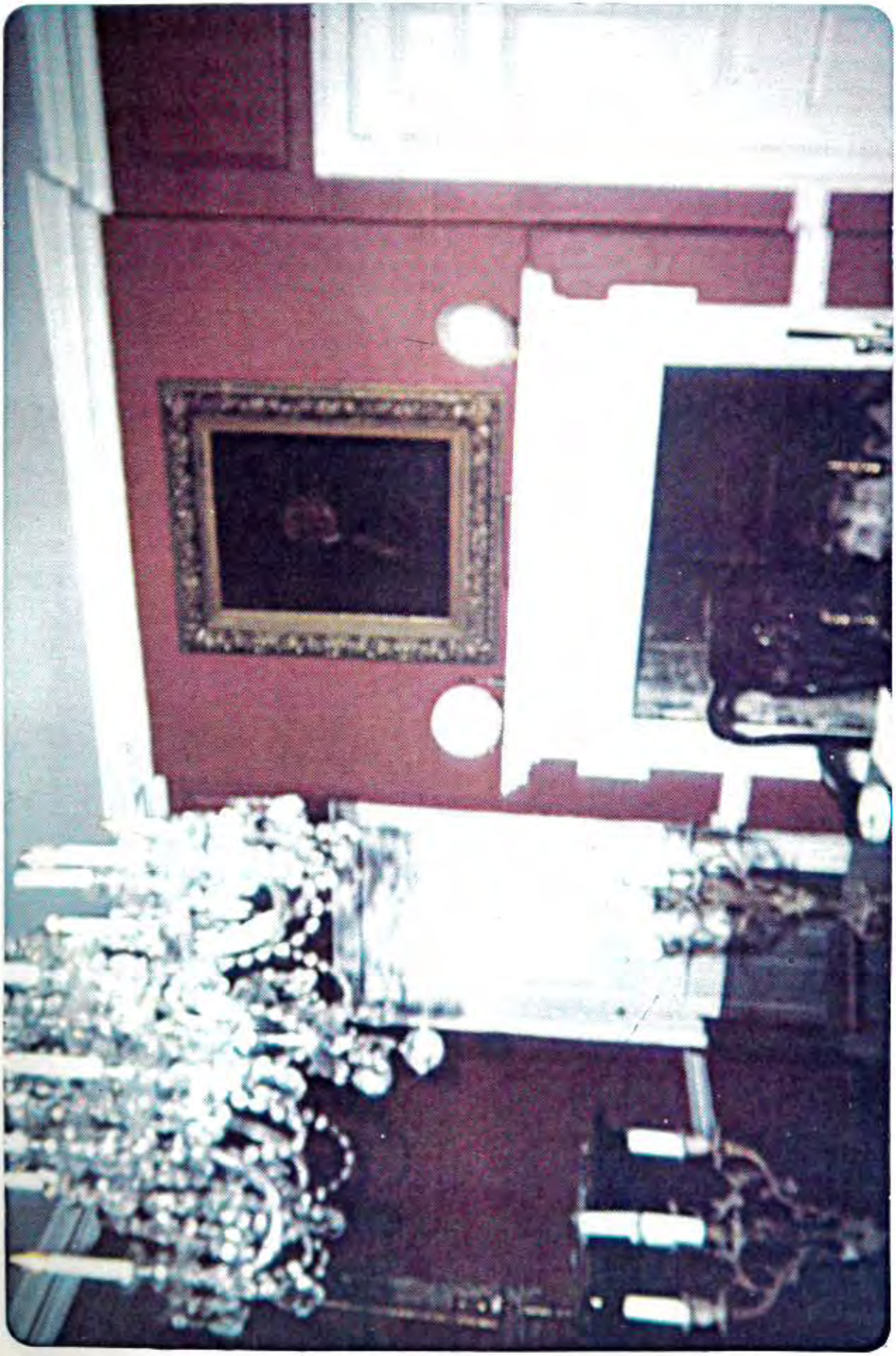
First floor dining room and second floor library--all wood elements excluding baseboards and surround plinth blocks: yellow/grey (Munsell 7.5Y 5/2)

All baseboards and surround plinth blocks: black (Munsell N 0.75)

All plaster: white plaster finish coat



89 Wentworth St. -- 7



Dining Room
89 Wentworth St. -- 8

Library
89 Wentworth St. -- 9