

**A Dendrochronological Study of
The T. Thomas Fortune House
Red Bank, Monmouth County, NJ**



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Introduction

At the request of the T. Thomas Fortune House Foundation and Mark Fitzsimmons Architect, a dendrochronological (tree-ring dating) study was performed on the T. Thomas Fortune House at 94 Drs. James Parker Blvd., Red Bank. Richard Veit, Ph.D., performed the fieldwork in June of 2017. A total of six core samples were taken from timbers in the structure. None correlated particularly well with any of the regional master chronologies; however, they do provide some clues as to the structure's age.

The building is unusual in that removal of the plasterwork inside the house had revealed several different construction episodes. The main block (northern section) facing Drs. James Parker Boulevard was revealed to have a heavy timber frame construction. With large hand-hewn timbers mortised and pegged in place. This frame extended through the first and second stories of the building. The frame is consistent with construction techniques practiced in Monmouth County before c. 1840. The section of the house that runs perpendicular to Drs. James Parker Boulevard, or southern section, was framed with sawn timber. Additional additions had been made on the rear of the building using dimensional lumber. The building's mansard roof, seems to have been added when the southern section was added and uses similar lumber. The cellar of the house also supports the idea that the house was constructed in several sections. The main block (northern section) has a mortared fieldstone foundation, overlain by a brick foundation. This may indicate that an earlier building stood on the site and that when the current structure was constructed or renovated the foundation was raised. A sand-filled well was noted immediately behind the cellar's rear (north) entrance. The current building known as the T. Thomas Fortune House shows several distinct construction episodes. It appears to have begun with a two story, rectangular timber-frame building that was later expanded and improved to form a vernacular Second Empire house. Further additions were added to the rear of the building in the 20th century. The original structure may have been located on site, hence the fieldstone foundation or, less likely, it may have been located elsewhere and moved to the site, necessitating raising the foundation.

The figures below show some of the building features noted in the field.



View looking north towards the T. Thomas Fortune house, the earliest build episode of the house is outlined in red. Green blocks indicate Victorian additions.



View looking southeast in the basement of the main block of the house showing the original rough stone foundation, overlain by the brick foundation and the timber joists supporting the first floor.



View looking east in the cellar of the main block of the house showing the joists supporting the first floor and a brick fireplace/chimney support.



View south, showing the south wall and southeast corner of the main block of the house on the second floor. Note the timber framing, with clay noggin in the walls. The clay is scored to take a rough coat of plaster—now removed.



View Northeast inside the T. Thomas Fortune house showing clay wall nogging.



View south showing the northeast corner of the southern addition, with typically late 19th-century framing.



Victorian era framing for the mansard roof of the Fortune house.



Rear of the Fortune house following the removal of 20th century additions. The brick foundation within the concrete block foundation may indicate the location of one or more earlier additions.



Well immediately behind the T. Thomas Fortune house.

Methods

Tree-ring dating and cross dating are essentially pattern matching of the variations in wide and narrow annual rings, wood density, or other ring characteristics resulting from variations in regional climate. All of the cores were taken from timbers that appear to be original components of the structure—from the first construction episode--and in most cases had retained either their original bark, or showed a waney edge, indicating where bark once had been. As the master or best dated chronologies for the northeastern United States are based on oak, all of the samples taken were cut from oak beams.

Once they arrive at the lab, the cores are sanded and polished until the ring patterns show clearly. Measurements of ring widths are then recorded using a staging microscope and computer. These measurements are compared with master chronologies made from dated beams in the same geographical area. This is done with specialized computer software. All of the cores are kept on file at the Tree-Ring Laboratory.

Core Sample Catalog

Sample #1: This sample was drilled from a joist with a waney edge next to the cellar door. It had a waney edge, but only 48 rings and could not be dated.

Sample #2: This sample was drilled from a joist with a waney edge in the cellar. It was the first joist in the main block of the house. It had 39 rings and was too short to date.

Sample #3: This sample was taken from the second joist in the cellar of the main block of the house. It had 132 rings and yielded weak correlations with 1688 and 1774.

Sample #4: This was the third joist in the cellar of the main block of the house. It had 53 rings and was too short to date.

Sample #5: This was the fourth joist in the cellar of the main block of the house. It had 72 rings and was too short to date.

Sample #5: This was the fifth joist in the cellar of the main block of the house. It had 61 rings and weakly correlated with Sample #3 to yield a date of 1718.

Interpretations and Conclusions

In summary, six oak timbers from the T. Thomas Fortune House were sampled. Only two of the samples yielded dates, Samples #3 and #5. Both timbers yielded 18th century dates 1718 and 1774. The 1718 date is very early and likely some wood was lost in sampling, so it should not be taken as the date of the structure. The 1774 date is more intriguing. This information, taken together with the framing information may indicate that the original timber frame structure of the Fortune house dates from as early as the 18th century and almost certainly before the mid-19th century. Whether it was erected on this site or moved here from another location is not clear. The structure was enlarged and

improved in the late 19th century, and its façade appeared as it does now by the time Fortune acquired the house.

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