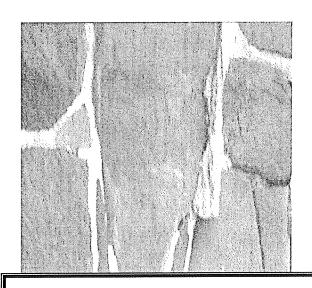


## Historic Structure Report THE JOHN COPE HOUSE

East Bradford Township Chester County, PA





# Historic Structure Report THE JOHN COPE HOUSE

East Bradford Township Chester County, PA



### UNIVERSITY OF PENNSYLVANIA

Graduate Program in Historic Preservation Site Analysis-HSPV 601-201 Spring 1998



### "Vale of Avoca"

I have stayed where the streams from the cascades are pouring, through the wild flowery meadows, the home of the bee; Where the waves of the Weber and the Humboldt are roaring: But my love-rolling landscape still lingered with thee. Ohl ne'er from these hills may the cannons loud rattle, Nor the slow, solemn tread of the feet of my foes: Not even the far distant echo of battle, Nor the voice of a cyclone disturb thy repose. Long! Long! may the smoke from each farmhouse ascending Through broad azure canopy rise, till they stand with there crowns mid the fleecy clouds bending, As columns of incense in Liberty's skies. Our own Dr. Darlington, he who first named thee, As thy flora he sought on the banks of thy stream. Though gone are the fathers who gathered thy harvest, And studied thy plants that embellished thy sod; Yet still in thy labours thy offspring are blessed; Might more of them follow the foot steps thy trod, It is Spring, and the songsters are again returning; The flocks are enjoying the sun's golden beams; All nature is robed in thy rickest adorning; And thy cattle now graze by thy murmuring streams. How lovely thy landscape, Oh.

When the soft Summer breezes swept over the plain; With what pleasure the eye will untiringly tarry, on the broad rolling Sea of the tall wavy grain. It is Fall, and the buskers are gathering their harvest, The fields in their fast fading verdure arrayed; But the bright crimson bues and the gold of thy forest, Put the roses rich carmine far back in the shade. With pleasure we bail the gay Spring time and Summer; And gaze with delight on the glories of Fall; But the wild stormy blasts, and the snows of the Winter, Have a deep mournful charm that outrivals them all. Thy high hills a far view of thy features commanding; The meadow, and forest, each farm-house and grove; On the mystical tablets of memory are standing; An index to bright scenes of friendship and love. Peaceful Vale of Avoca no vain emulation; But the pride of a patriarch proclaims it for me; The minions of justice might suffer starvation: Did the bread for thy table depend upon thee. And shall we not sing of our old native home-stead, Where a stranger once settled who came to this shore. To the four winds of heaven through his children are spread, The sixth generation now plays in its thor. Loved land of our ancestors still, Will we bless thee Healthful home of the upright, the generous, and true; Yet long may the sons of thy father possess thee;

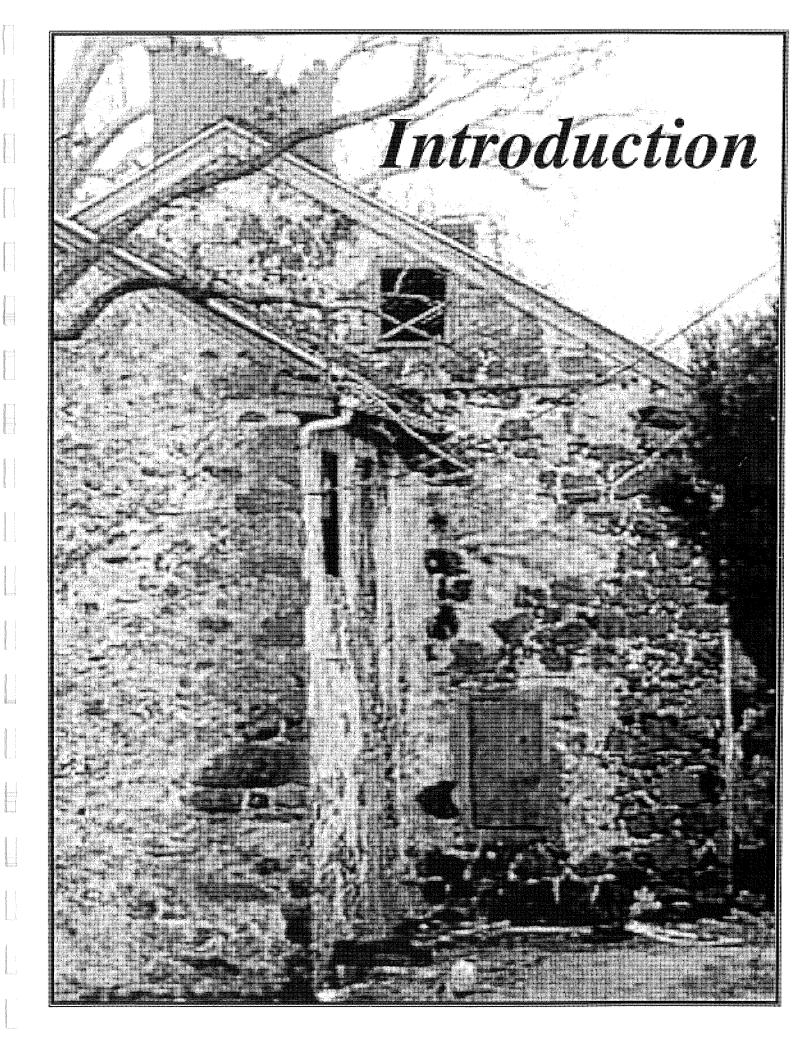
And only in death may we bid adieu.

### Acknowledgments

The research and production of this Historic Structure Report was a collaborative effort by the students of the Graduate Program in Historic Preservation's Documentation and Site Analysis class of the University of Pennsylvania. The students would like to acknowledge the efforts of many groups and individuals associated with the Cope House for their assistance in the success of this project. First, the class would like to thank the EAST BRADFORD TOWNSHIP BOARD OF SUPER VISORS, ANN ARMSTRONG of the East Bradford Township Historical Commission, MICHAEL P. LYNCH, Township Manager, MR. AND MRS. FRANCIS ADAMS and BILL AND JANICE COPE for supporting our efforts to accomplish this project. We would like to thank ROUSE/CHAMBERLAIN HOMES, and specifically JONATHAN PENDERS, more Rouse/Chamberlain's land development coordinator, for providing access to the house for the semester. We would like to recognize the assistance of the Library and Research staff of the CHESTER COUNTY HISTORICAL SOCIETY AND CHESTER COUNTY ARCHIVES in our investigation of archival records. Finally, we would like to thank Adjunct Associate Professor JOHN MILNER, AIA for defining the scope and guiding the class through the completion of this project.

The previous poem, written by Caleb Cope, was published in a local Chester County newspaper ca. 1878. It was prefaced with a brief description of the region and its occupants; "The valley about half a mile north of the borough was named 'Vale of Avoca.'... Taylors' Run, more properly known as Lady Creek, flows through it. In 1840 the proprietors of the valley were John Hoopes, John Worley, Rachel Taylor, Gerard Cope, Benjamin Cope, Anthony Taylor, Joseph Cope, Samuel Taylor, Abiah Taylor, and James Taylor. A part or the whole of these properties still remain with them or their descendants at this time except in three instances." The Dr. Darlington mentioned is Dr. William Darlington, an early 19th century medical doctor and botanist, who frequently travelled through the valley. Caleb named the poem "Vale of Avoca" as the valley reminded him of Avoca in Ireland.

Cope House Site Analysis



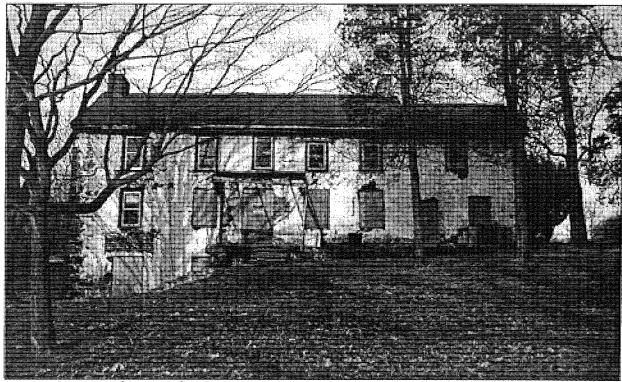


Figure 1.1. Exterior view of Cope House from the South showing Phases II, III, and IV.

#### Overview

The subject of the Historic Structure Report is the John Cope House in East Bradford Township, Chester County, Pennsylvania. The existing structure is a stone farmhouse, initially constructed in the mideighteenth century and modified and expanded in stages during the nineteenth and early twentieth centuries. The John Cope House serves as a significant example of settlement, agricultural development, and architecture in East Bradford Township and Chester County. East Bradford Township was organized and settled in 1705, predominantly by Quaker families of English origin. The Cope family was among the early Quaker

settlers of this rural area of Chester County, arriving in 1712. In addition to evidence of early Quaker settlement, the John Cope House represents the changing agricultural practices in southeastern Pennsylvania from the eighteenth to the twentieth centuries. the early Despite twentieth century modifications, the house retains physical evidence which reveals its original appearance as an excellent example of an early vernacular stone farmhouse in the Georgian style. The John Cope House is vacant and several integral components of its original fabric, including mantle pieces and a corner cupboard, have recently disappeared from the house. The

future of the house is uncertain unless a suitable buyer can be found. Rouse/Chamberlain Homes of Exton PA is seeking approval of a 65-unit subdivision on the 94 acres, including the John Cope House. In early December 1997, the East Bradford Board of Supervisors, following efforts by community

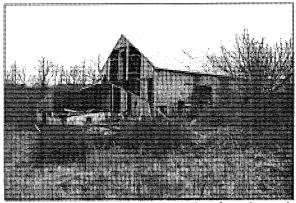


Figure 1.2. The Cope House Barn taken from the North. (demolished 5.97).

activists and the East Bradford Township Historical Commission, denied the issuance of a demolition permit. On January 13, 1997, the Board of Supervisors and Rouse/ Chamberlain Homes reached a compromise in which the developer agreed to market the house for either residential or office renovation. As of this time, Rouse/ Chamberlain is entertaining offers from interested parties.

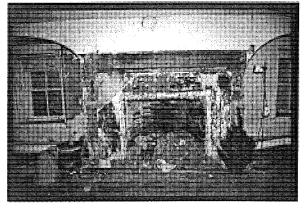


Figure 1.3. Room 002 parlor fireplace with stolen mantle piece.

### Methodology

To fulfill our objectives for the project, we employed a methodology which drew upon the multiple disciplinary interests and experience of our project team in three distinct components: archival research and documentation, physical investigations, and laboratory analysis.

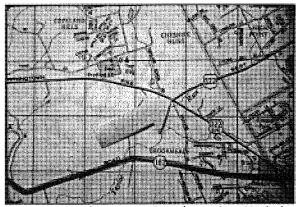


Figure 1.4. ADC Chester County, Pennsylvania. Street Map Book. 12th Edition 1990s Map #31.

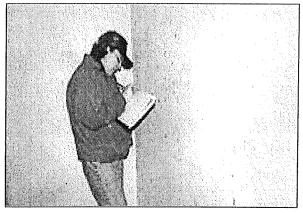
### Archival Research and Documentation

The archival research was predominantly undertaken at the Chester County Historical Society and the Chester

County Archives, both in West Chester, PA. The examination of archival evidence such as family diaries, ledger accounts, wills, deeds, maps, tax records, and photographs outlined the settlement and agricultural and industrial development of the Cope Family, East Bradford Township and Chester County. Archival evidence answered many questions concerning the Cope House: dates or a range of dates for building construction, the identities of the original and succeeding property owners and inhabitants, the changing use of some of the rooms, the role of the property within the community, and historical descriptions and photographs of the property. Further supplemental research was done at the National Archives in Philadelphia, PA. We were fortunate that many concerned members of the community, familiar with the local history of the Cope Family and East Bradford Township, shared their insight and private manuscript collections. Others in the county opened their homes to the class, displaying houses of similar age, exterior treatment and interior embellishment.

### Physical Investigation

The findings of archival research and documentation were combined with extensive physical investigations of the house to identify and document the chronology of multiple building campaigns. The basis for the building





Figures 1.5 & 1.6. Andrea Sue Morrison and Scott Doyle measuring the existing structure for the documentation of the floor plan.

chronology presented herein is supported by our investigation of the structure in its current condition, both in terms of building materials and construction techniques. The class closely inspected the exterior of the house to identify signs of additions, alterations, changes in grade, inconsistencies in mortar joints, the type or treatment of masonry, or missing features that would reveal the original appearance of each building campaign and the timeline for later additions. Window and door openings were closely examined to determine whether they were original or had been filled in or expanded over time.

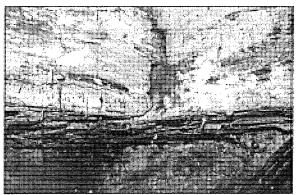


Figure 1.8. Whitewashed floor joists exposed in room 006.

interpreting the body of evidence uncovered through investigation. The archival research report has provided a relative timeline for the construction periods and changes occupation of the house over time. Floor plans, elevation and section drawings and framing plans have been drawn to scale and accurately annotated to corroborate the timeline for the construction, appearance, and subsequent alteration of the Cope House. Photographs and detailed drawings woodwork have been included to visually support the evidence.

### Laboratory Analysis

Our physical examination has been supplemented by the scientific analysis of certain building and finishing materials throughout the house. Plaster and paint samples were systematically taken from wall surfaces and analyzed in the Architectural Conservation Laboratory at the University of Pennsylvania's Graduate School of Fine Arts.

The material composition and layering of paint

and plaster have been used to determine a relative timeline for the appearance and alteration of the structure. The laboratory analysis provides further support for the chronology of building campaigns at the Cope House. The findings are presented in laboratory reports and microscopy photographs included in the Appendix.

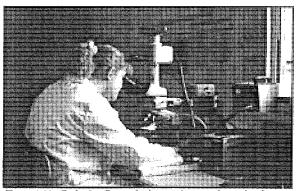


Figure 1.11. Catherine Deway looks at paint samples under the microscope at the University of Pennsylvania Conservation Lab.



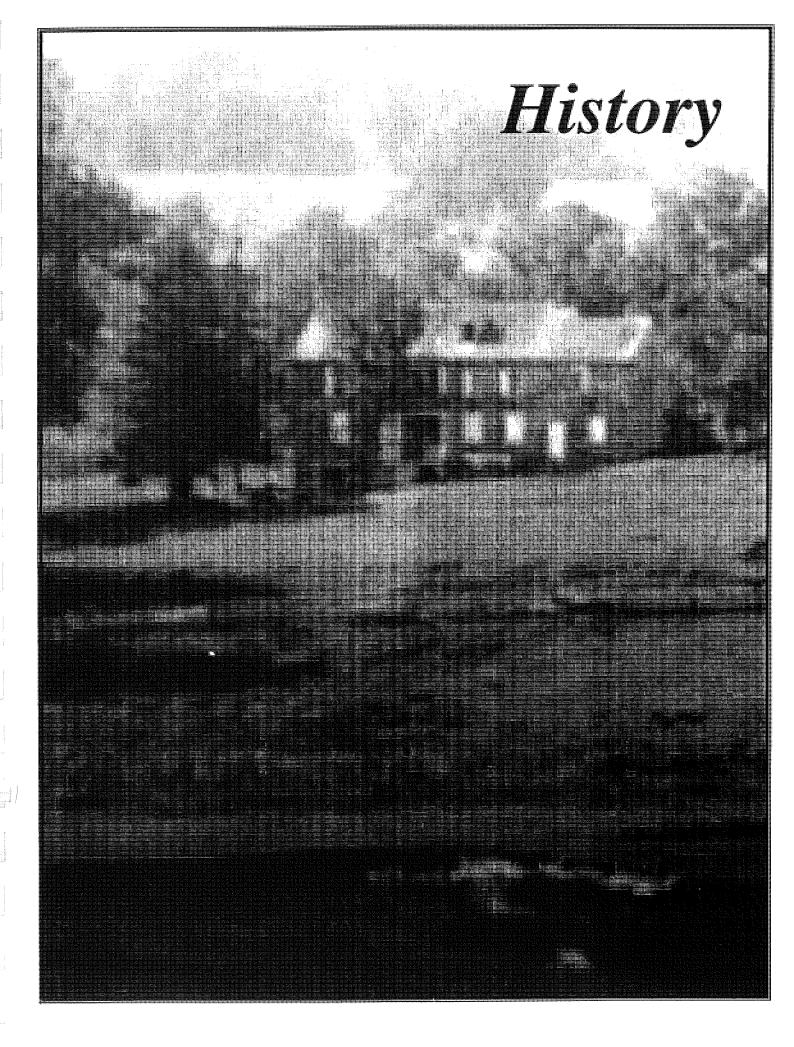
Figure 1.12. The University of Pennsylvania's Historic Preservation Site Analysis Class in front of the west façade of the Cope House.

### Project Participants

The members of the team who researched and assembled this project are as follows:

- · John Milner AIA, Adjunct Associate Professor of Architecture
- Documentation and Site Analysis Students:

Mary Alfson	Jody Doherty	Meghan MacWilliams
Lori Aument	William Ferguson	Andrea Sue Morrison
W. Chris Carson	Joshua Freedland	Philip Nord
Moses Corrette	Allison Garwood	Matthew Pisarski
Anne Cunnion	Claudia Harbert	Erin Tobin
Catherine Dewey	Shi-gong Huang	Marnie Newman
Scott Doyle	Jharna Joshi	Chen-Shan Wang



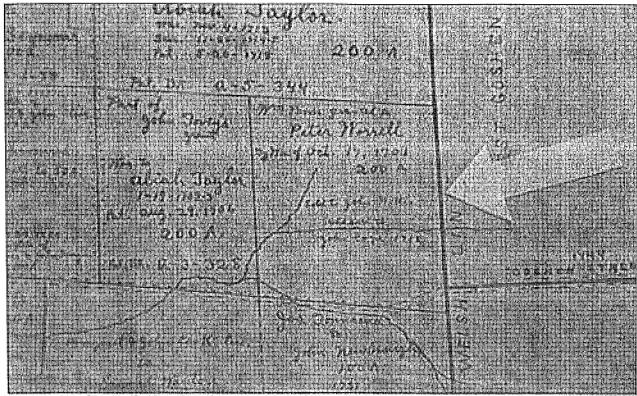


Figure 2.1. Map of East Bradford Townships, Chester County, Pennsylvania. By Francis D. Brinton (1912). Scale – 100 perches to one inch. "Wm Penn granted to Peter Worrell by warrant on Oct. 17, 1701. 200 acres. Sold to John Willis who then sold to John Cope(1712).

### Chester County History

Following the grant of his charter on March 4, 1681, William Penn divided the province into Chester, Bucks, and Philadelphia Counties. William Penn created Chester County out of land previously transferred among the colonies of New Netherlands, New Sweden, New Amstel, and New York from 1609 until 1682. Thomas Pearson, a friend of William Penn, chose the name for Chester County in honor of Chester, the county seat of Cheshire, England, deriving from the Roman word *castra* and the Saxon word

ceaster.<sup>2</sup> Prior to Penn's charter, the Swedes had organized this territory as Upland County, primarily settling in the eastern portion, which became Delaware County in 1789.<sup>3</sup> Bordering Chester are: Montgomery County to the north-east, Berks and Lancaster Counties to the north-west, and Maryland and Delaware along the south and south-eastern boundaries. Mason and Dixon's Line delineates the Chester County-Maryland border.

<sup>&</sup>lt;sup>1</sup> W. W. Thomson, Chester County and its People, (New York: The Union History Company, 1898), 63.

<sup>&</sup>lt;sup>2</sup> Thomson, 62.

<sup>&</sup>lt;sup>3</sup> Duane Eugene Ball, The Process of Settlement in 18<sup>th</sup> Century Chester County, Pennsylvania: A Social and Economic History, (University of Pennsylvania: PhD Dissertation, 1973), 24 and Thomson, 62.

In 1686, land surveys made south of Strasburg Road formed the southern limits of Bradford Township, not changing until 1870.<sup>4</sup> The name for Bradford Township either derives from Bradford in Yorkshire or Bradford on the Avon in Wiltshire, England.<sup>5</sup> East and West Bradford were created in 1731, minor adjustments to their boundaries occurred in the mid-nineteenth century.<sup>6</sup> Pocopson Township absorbed part of West Bradford in 1849 and the southern end of East Bradford was attached to Birmingham in 1856.<sup>7</sup>

As early as 1683, Chester County was an agricultural community, using a plow as the "main device" on the seal adopted by the Chester County Council.<sup>8</sup> Western Chester County remained wild until the end of the seventeenth century. In 1700, William Penn sold much of the land in Chester County for use as individual manors. The remaining land was sold, sight unseen, to individuals or groups in England.<sup>9</sup> Generally, each settler had enough property to his own farm, utilizing this unusually fertile land.<sup>10</sup> Farms averaged one to two hundred acres in 1784, with

between four and nine percent cultivated.<sup>11</sup> Indian corn, barley, oats, rye and wheat were among the most popular crops. Especially popular among soldiers, rye was used as a "bread cereal" in the Revolutionary War.<sup>12</sup> The farms surrounding the Cope property were heavily involved in agricultural pursuits. Ezra Cope and Thomas Hoopes Jr. patented a new mowing machine for crops in 1825, producing approximately fifty machines capable of cutting an acre of crop per hour.<sup>13</sup>

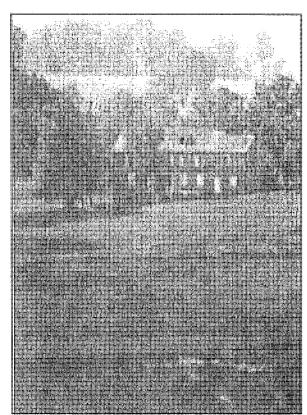


Figure 2.2.Early photo of the Cope House, a view of the south facade.

<sup>&</sup>lt;sup>4</sup> Thomson, 864.

<sup>&</sup>lt;sup>5</sup> J. Smith Futhey and Gilbert Cope, History of Chester County, Pennsylvania with Genealogical and Biographical Sketches, (Philadelphia: Louis H. Everts, 1881), 166.

<sup>&</sup>lt;sup>6</sup> Thomson, 864.

<sup>&</sup>lt;sup>7</sup> Futhey and Cope, 166.

<sup>&</sup>lt;sup>8</sup> Thomson, 958.

<sup>&</sup>lt;sup>9</sup> Ball, 24.

<sup>&</sup>lt;sup>10</sup> Ball, 29 and Thomson, 959.

<sup>11</sup> Thomson, 958.

<sup>12</sup> Thomson, 959.

<sup>13</sup> Thomson, 960.



Figure 2.3. "Benjamin cope & family" Right to Left: William C., Rest, Benjamin, Caleb, Ruth Ann Green Cope, Abbie E. Cope. Ref.: Smedley Family, pg. 760 at the Historical Society of Chester County.

### The Cope Family History

John Cope (1691 - 1773) was the fourth child of Oliver (b? - 1697) and Rebecca Cope (b? - 1728), who emigrated from England to the colonies in 1682 or 1683, shortly after purchasing property in New Castle County, Delaware from William Penn. 14 Being the second son in the family, John Cope did not inherit his father's land, but rather purchased

two hundred acres of land for 25 pounds in present-day East Bradford Township, Chester County, Pennsylvania from John Willis in 1712.<sup>15</sup> Family histories in the collection of the Chester County Historical Society indicate that shortly after purchasing the property, John Cope erected a log house on the land.

<sup>&</sup>lt;sup>14</sup> Clipping, "David H. Cope," Cope - Miscellaneous, Family History Collection, Chester County Historical Society, West Chester, PA. (Hereinafter referred to as CCHS.)

<sup>15</sup> Gilbert Cope, A Record of the Cope Family, as Established in America, by Oliver Cope (Philadelphia, PA: King and Baird, Printers, 1861), p. 23; Clipping, "Cope," Cope - Miscellaneous, Family History Collection, CCHS.

According to Gilbert Cope's A Record of the Cope Family, the logs were "mostly poplar," and, as of the book's publication in 1861, "appear sound enough yet to outlast some of the younger descendants of the builder." Indeed, another source indicates that the log house "was torn down during or soon after the late Civil War." According to the diary of Caleb Cope, the log cabin had been turned into stables by the early 1840s. 18

The log house erected by John Cope was likely intended to house John and his first wife, whom he married sometime around 1712. The name of John Cope's first wife is unknown, as is the exact date of her death. John Cope married his second wife, the widow Charity Evans, in a Quaker ceremony in 1721. Three years later, the first of John and Charity's eight children was born. For a time, the household also included John Cope's mother, Rebecca, who lived with her son until her death in 1728. Charity died in 1746 or 1747, and John married a third time, wedding

Elizabeth Fisher, a widow, in 1748. John and Elizabeth had no children.<sup>19</sup>

John Cope was a member of the Bradford monthly meeting of Friends from its founding in 1737 until his death in 1773; his will reveals a bit of the austerity one might expect of a Quaker, instructing his executors to bury his body "in decent manner....And as Exemplary caution against needless Ostentation, I will that my Body be Intered in a Plain coffin made of Oake or Poplar Wood in its natural colour and that it may not be wrapped in new or costly Linnen or Muslin..." By the time John Cope died, the eastern portion of his East Bradford estate had already been given to his first son, Samuel, who later supplemented this property by purchasing additional land in the vicinity. The western portion of the land - which included the log house - was willed to John Cope's third son, Nathan (1733 - 1820). Nathan and his wife, Amy Bane, raised eleven children on the property. When Nathan died in 1820, he left the property to his eldest son, Benjamin (1765 -1845), who in turn left the property to his only child, Caleb, in 1845.20

<sup>16</sup> Gilbert Cope, A Record of the Cope Family, p. 24.

<sup>17</sup> Cope, Gilbert, "Clan Cope and Its Branches," 1898, Cope - Miscellaneous, Family History Collection, CCHS.

<sup>18</sup> The entry from September 27, 1842 reads, "We are building up a wall under the old log stable formerly a house put up or built by my great grandfather John Cope." Diary of Caleb Cope, 1842-1874, CCHS.

<sup>&</sup>lt;sup>19</sup> Gilbert Cope, A Record of the Cope Family, p. 23-27; Clipping, "David H. Cope," Cope - Miscellaneous, Family History Collection, CCHS.

<sup>20</sup> Gilbert Cope, A Record of the Cope Family, p. 27, 31, 49, 106; Will #2756, Chester County Archives & Records, West Chester, PA; Clipping, "Cope," Cope - Miscellaneous, Family History Collection, CCHS.

At the time of his father's death, Caleb Swayne Cope (1818-1903) had been married to Lydia Eldrige for seven years.<sup>21</sup> Entries from Caleb Cope's diaries indicate that Caleb and Lydia Cope lived at the Cope farm with Caleb's parents (Benjamin and Rest Swayne Cope) prior to his inheriting the property. In his diary from 1839, Caleb Cope refers to his neighbor to the north, Isaac Hoopes, as well as to his "nearest neighbor," Anthony Taylor.<sup>22</sup> Maps from the period indicate that lots adjacent to the Cope family property were owned by Hoopes and Taylor; these names also appear in the descriptions of the Cope property from the deeds

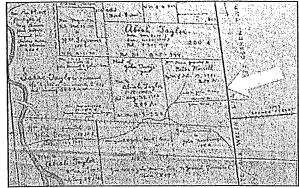


Figure 2.4. Map of East Bradford Township (1912) showing Hoopes and Taylor as neighbors to Cope property.

of sale (see Chain of Title in the Appendix).<sup>23</sup> Finally, an 1843 entry from Caleb Cope's diary

refers to a female boarder in the household whose room was located "over Father and Mother's kitchen in the East end of the house," <sup>24</sup> suggesting that Caleb and Lydia shared the house with Benjamin and Rest, and maintained separate kitchens in different wings of the house.

Caleb Cope's diaries, along with census records, reveal a great deal of information about the makeup and operation of the Cope farm during this period. In addition to the Cope family members, a number of hired hands and servants lived on the property. Although early census records do not list names of household occupants, it is clear that a number of non-family members were living at the Cope farm both in 1830, when nine individuals are listed, and in 1840, when eleven people, including one "free colored male" between the ages of ten and twenty-four, were living in the household.<sup>25</sup> The 1850 census provides more details, listing Caleb (a farmer with real estate valued at \$16,000.00), Lydia and their sons, as well as John Smith, age 25, a

<sup>&</sup>lt;sup>21</sup> Gilbert Cope, A Record of the Cope Family, p. 106.

<sup>&</sup>lt;sup>22</sup> 11/9/1839 and 11/15/1839 entries, Diary of Caleb Cope, 1838-1842, CCHS.

<sup>23</sup> A 1912 map, which is a copy of an earlier map (date unknown) shows that the Copes' neighbors included Abiah Taylor and Isaac Taylor. An 1898 map indicates that Simeon Hoopes lived on the property to the north of the Copes. Francis D. Brinton, Map of East Bradford, Chester County, Pennsylvania (place, 1912); Breou's Official Series of Tann Maps: Chester County (place, 1898), plates 88-

<sup>89;</sup> Deed Book B, p. 314, Deed Book 12, p. 106 and Will #6861, Chester County Archives & Records, West Chester, PA.

<sup>&</sup>lt;sup>24</sup> 1/22/1843 entry, Diary of Caleb Cope, 1842-1874, CCHS.

<sup>25</sup> United States Census for 1830, Pennsylvania, Chester County, East Bradford Township, Roll #148, p. 21 and United States Census for 1840, Pennsylvania, Chester County, East Bradford Township, Roll #454, p. 79, National Archives – Mid-Atlantic Region, Philadelphia, PA.

laborer, and Henrietta Singles, age 19.26 Though the census does not list her as such, Caleb Cope's diaries clearly indicate that Henrietta Singles was a household servant; on March 9, 1839, Caleb wrote, "Father and Lydia went to Goshen to bring Henryetta Singels [sic] for us to bring up and her sister Sarah as hired girl at \$1 a week.... Henrietta will be 8 years the 26th of 10th mo. next."27

The Copes apparently took other children into their household as well, housing and, perhaps, schooling them in exchange for labor. The 1850 census lists John C. Sheppard, age 14, and Deborah A. Davis, age 10, and indicates that they had attended school within the last year.<sup>28</sup> A diary entry from February 21, 1839 states, "I brought Isaac Fox from Goshen to live with us. He will be 9 years old 6th mo. 6th 1839." Several months later Caleb wrote, "I was at Goshen to-day and agreed with John Fox for his son Isaac to stay with me till he was 16." The exact nature of these arrangements is unknown; however, the Copes clearly made use of some indentured servants or apprentices. In 1841, Caleb wrote about John Campbell, a five-year-old boy who had "no relatives or acquaintances. I was willing to

have him Bound till he was 21."<sup>29</sup> In addition, the diaries reveal that temporary help was sometimes hired to assist with the operation of the farm.<sup>30</sup> In the summer of 1839, the farm's livestock included "4 horses 1 colt 9 feeding cattle 2 yoke of oxen 2 cow 1 heifer and 2 calves."<sup>31</sup> The farm also included an orchard, as well as crops such as corn and wheat.<sup>32</sup>

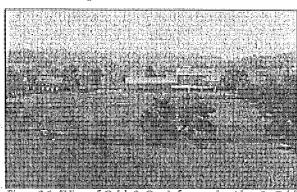


Figure 2.5. "View of Caleb S. Cope's farm and residence" Cale Cope was the nephew of the photographer.(8/25/1895)

The Cope family farm played a role in Chester County history. As Quakers, member of the Cope family did not enlisted to fight in the Civil War; however, the Copes assisted the cause of the North in other ways, at one point billeting soldiers in their home, albeit unwillingly.<sup>33</sup> Of more interest, however, is an entry from Caleb Cope's diary in 1842, in

<sup>&</sup>lt;sup>26</sup> United States Census for 1850, Pennsylvania, Chester County, East Bradford Township, p. 231, CCHS.

<sup>&</sup>lt;sup>27</sup> 3/9/1839 entry, Diary of Caleb Cope, 1838-1842, CCHS.

<sup>&</sup>lt;sup>28</sup> United States Census for 1850, Pennsylvania, Chester County, East Bradford Township, p. 231, CCHS.

<sup>&</sup>lt;sup>29</sup> 2/21/1839, 12/12/1839 and 5/12/1841 entries, Diary of Caleb Cope, 1838-1842, CCHS.

<sup>30</sup> Entries from 8/27/1839 and 11/3/1839 mention hired hands working at the farm. Diary of Caleb Cope, 1838-1842, CCHS.

<sup>&</sup>lt;sup>31</sup> 6/14/1839 entry, Diary of Caleb Cope, 1838-1842, CCHS.

<sup>&</sup>lt;sup>32</sup> 10/1/1838, 10/25/1838, 10/27/1838, 4/29/1839, 5/7/1839 entries, Diary of Caleb Cope, 1838-1842, CCHS.

<sup>&</sup>lt;sup>33</sup> Cope, Gilbert, "Clan Cope and Its Branches," 1898, Cope - Miscellaneous, Family History Collection, CCHS.

which he describes an evening when he was awakened by someone knocking on his door. Answering it, he found an unknown man asking for a member of the Cope family. When Caleb informed the visitor that this was the Cope household, he asked for sanctuary for himself and fourteen other adults and children, all slaves escaping from the area around Washington, DC. "We gave them some bread and meat and let them sleep on the floor till morning when we gave them some breakfast and they started from here between seven and eight o'clock..."34 While Caleb never mentions another incident such as this one, it is very possible, due to the large number of slaves who escaped through Chester County, that this was not the only time his family assisted fugitive slaves.

The farm was, of course, also home to Caleb and Lydia Cope's six sons, all of whom were educated at the Copeland School, a few hundred yards down the road from the farm, a school named for their ancestors. George Cope, the youngest of the children, was born at the Cope House on February 4, 1855, and grew up to be a well-known landscape and still life painter. Taught to draw by his brother Nathan, George was often reprimanded in school for his inattention, spending hours sketching caricatures of his teachers. He grew

up in an artistic atmosphere. His father's writings and poetry often appeared in the Daily Local News of West Chester. (See "Vale of Avoca" included in the front of this report.) His mother, who came from a family of musicians and sculptors, was an adept portraitist. In an interview from the Daily Local News written in the mid-1920s, George remembered his parents: "My parents were both artistic in feeling: father's talent vented itself in poetry and he contributed frequently to your worthy paper, and will be remembered by many of



Figure 2.6. Nathan Cope and Family. Nathan Cope's six children were(not in order pictured) George R., Lydia (Mrs. Edwin Moore), Wlater J., Martha (Mrs. Walker Wickersham), Beulah, & Edgar

your readers as one of Chester County's well known poets. Mother's talent for painting and drawing was very pronounced; at the age of

<sup>34 9/9/1842</sup> entry, Diary of Caleb Cope, 1842-1874, CCHS.

ten she was doing very creditable work."<sup>35</sup> One of George's early boyhood works was reputed to be a seascape painted on a door of a workshop on the farm.

At the age of 21, George met Herman Herzog, a well known Philadelphia academic painter under whom he studied. The two men developed a life long friendship and often went on local sketching trips together. In 1876, George set off for a four year trip throughout the west. He was joined there three years later by his father. Caleb sent many accounts to the Daily Local News of their adventures while George contributed sketches. In 1880, George returned to West Chester and set up a studio on Market Street where, to supplement his income, he began teaching painting. He was married in November of 1883 to Theodosia Blair. They had two children together. One, Muriel Herzog Cope, survived.

During the early 1880s, George Cope's fame as a local landscape painter grew. In 1884, he was reviewed for the first time in the Daily Local News: "I have watched the progress of our artist Cope for several years, and have observed evidences of improvements in every new picture. His last work now on exhibition in the window of jeweler Hill, of our borough, is the best he has yet

In addition to his fame as an artist, George also patented a canvas stretching device in 1890 which he employed throughout his lifetime. By 1900, although still drawing crowds in Philadelphia, George's fame was waning. In the last decades of his life, he turned to painting small domestic still lifes

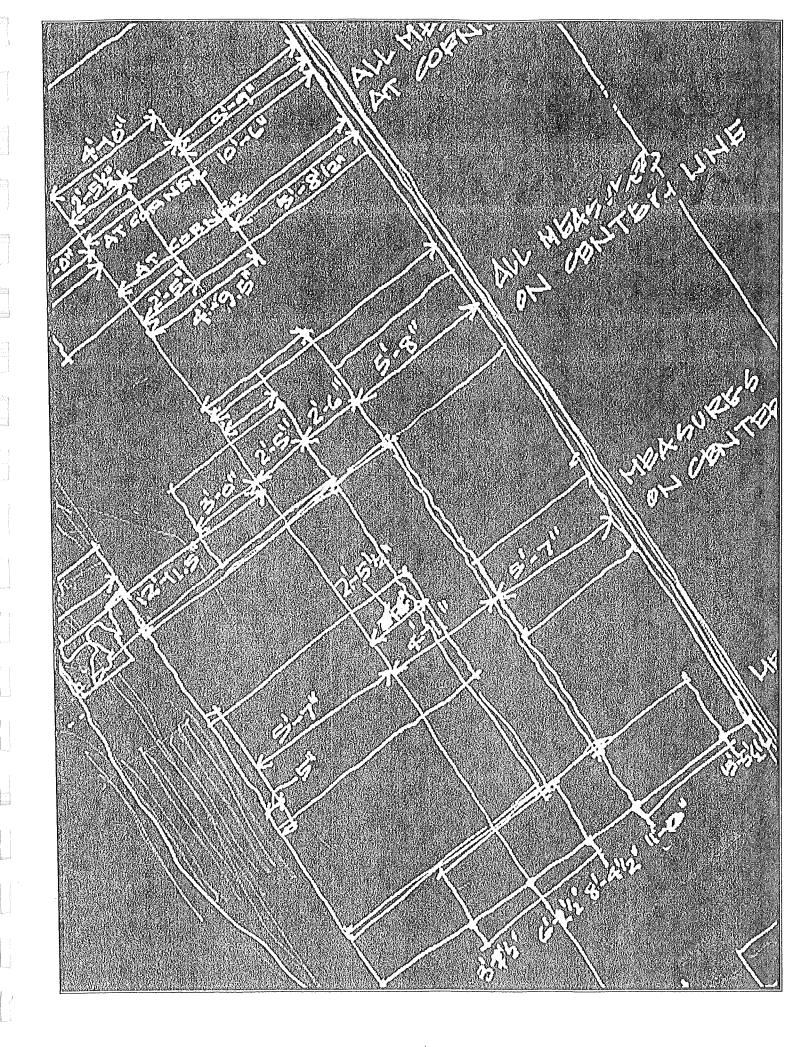
produced..."36 He sold and exhibited many works throughout Chester County and Philadelphia. In 1887, an important turning point came in the artist's career when he began exploring the illusion of the trompe l'oeil tradition. This intensely realistic form of still life was a popular manner of expression during this era. His trompe l'oeil works brought a wider fame to the artist and it is primarily these works for which the artist is know today. By 1895 one of his largest known works, the commissioned Buffalo Bill's Traps, was shown in Philadelphia where it was deemed necessary to erect a railing between the viewer and the painting, as so many in the audience were prone to touching the painting to see if the painted objects were real or clever imitations. Buffalo Bill's Traps subsequently shown at the very important Hoffman House in New York City and then went to the commissioner of the work, Senator Alfred P. Burke. This marked the apogee of George Cope's career.

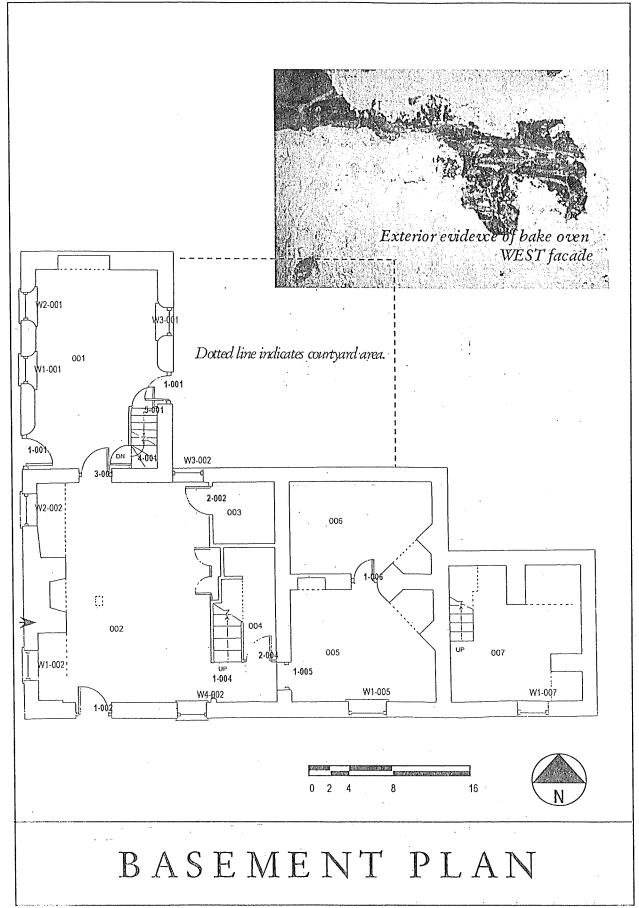
<sup>35</sup> Joan Gorman and Gertrude Sill, George Cope: 1855-192, Exhibition and Catalogue (Pennsylvania: The Stinehour Press and The Meriden Gravure Company, 1978), p. 8.

<sup>36</sup> Gorman and Sill, George Cope, p. 14-15.

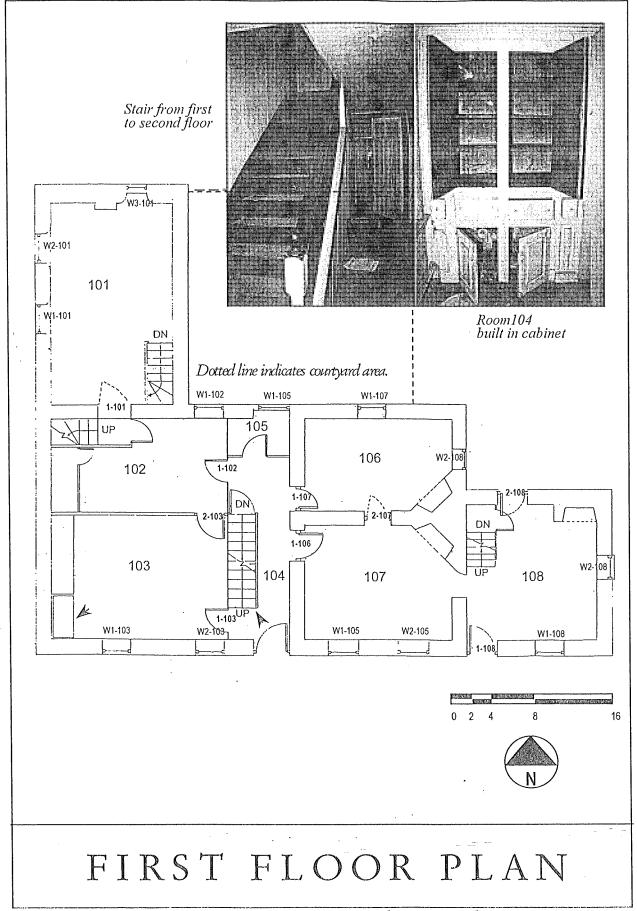
which he did for local families, struggling to pay his bills. He died on January 15, 1929 leaving behind him an important local legacy that began at the Cope House in the rolling countryside of Chester County. "Friendly, itinerant Cope made no august mystery of art. In modest, unconscious fashion he taught this County [of Chester] the most significant object lesson in art appreciation it could possibly have learned. This lesson was that art is a simple, native expression, understandable to everyone." <sup>37</sup>

<sup>&</sup>lt;sup>37</sup> Christian Brinton, "The Golden Age of Chester County Art" in Yesterday in Chester County Art (Chester County: The Art Centre, \_\_\_\_1936).

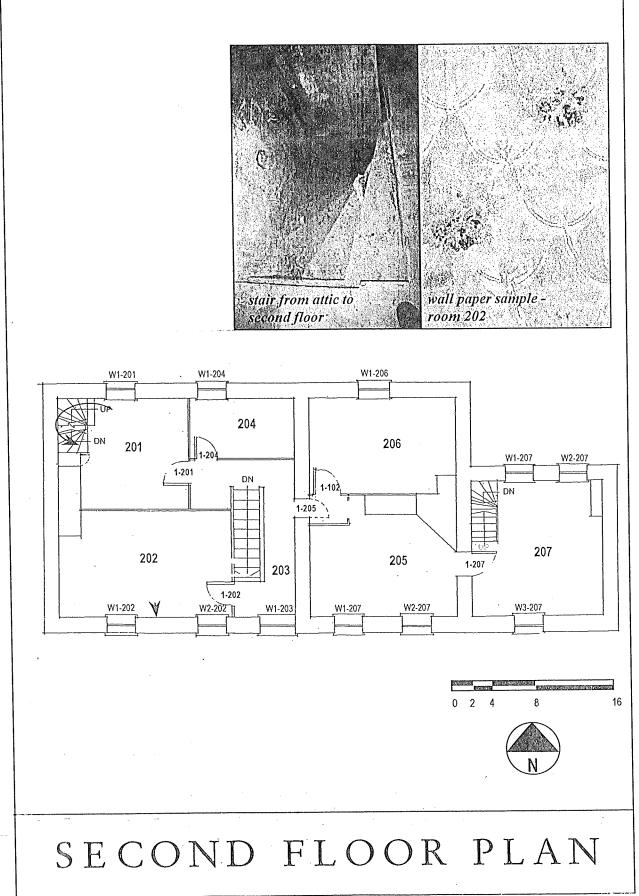


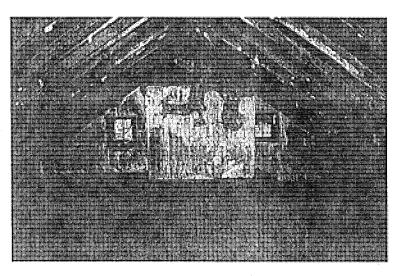


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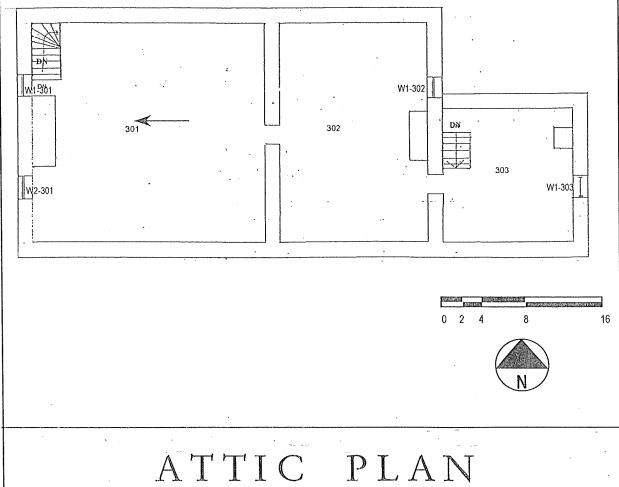


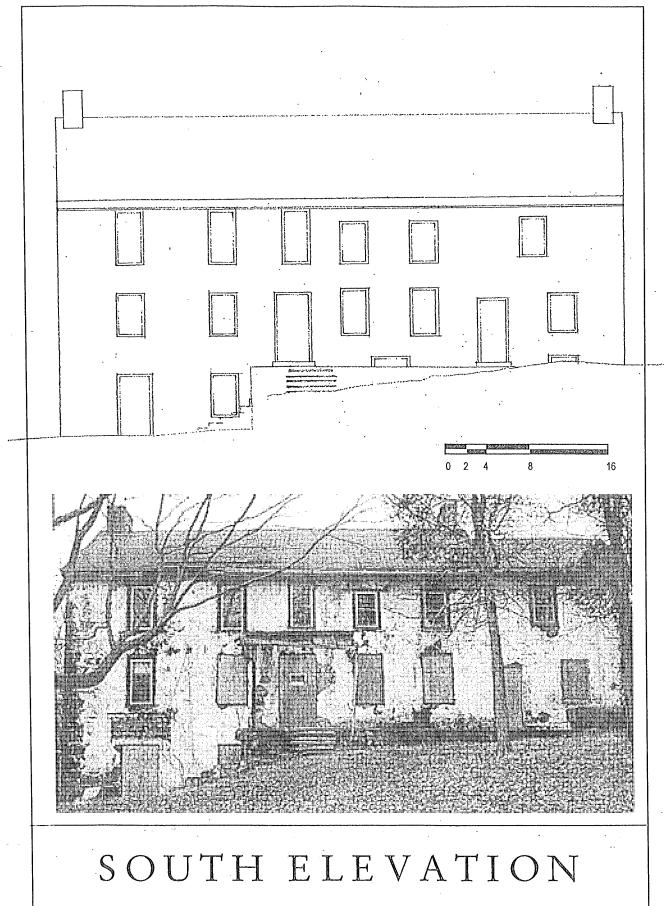
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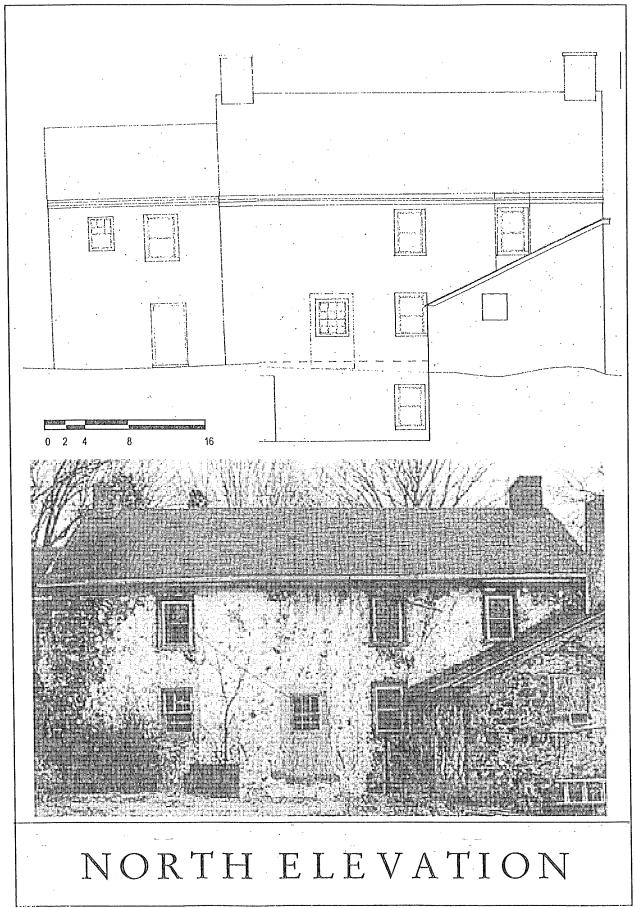


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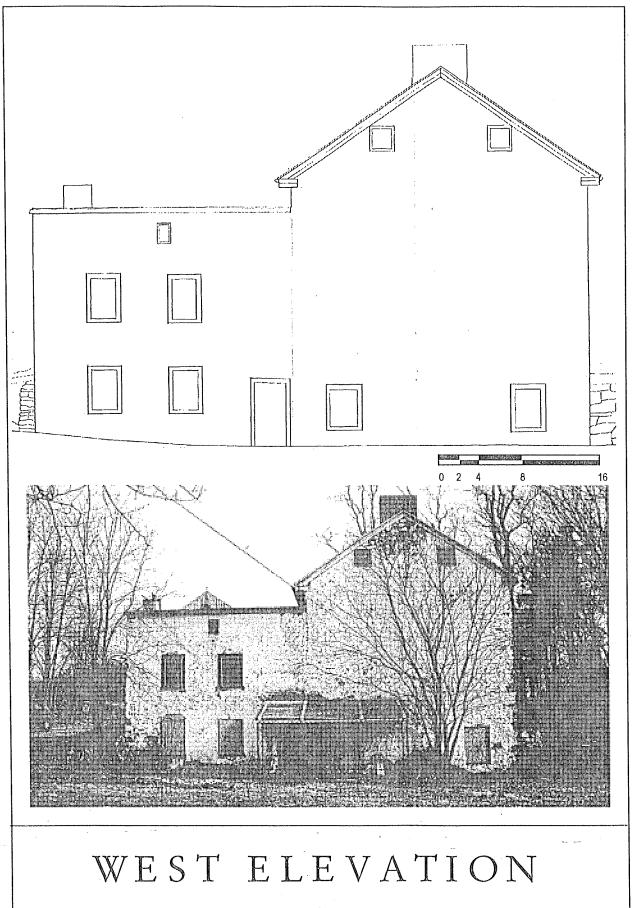


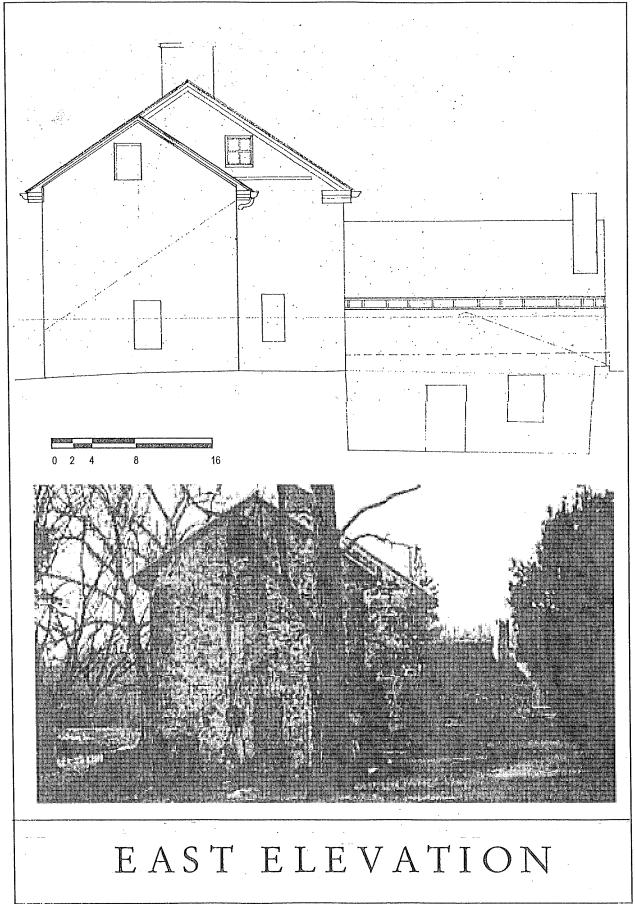


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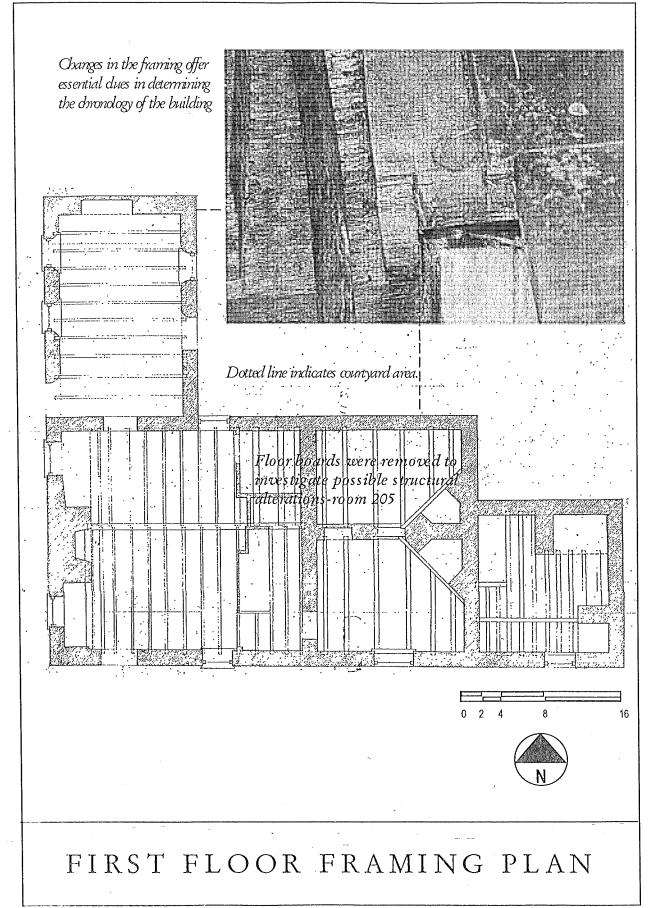


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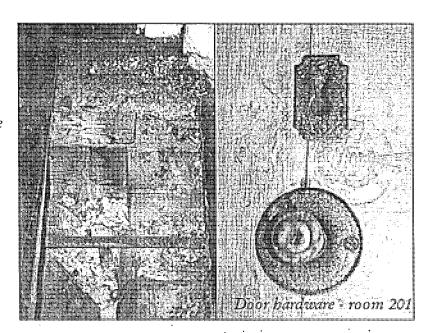


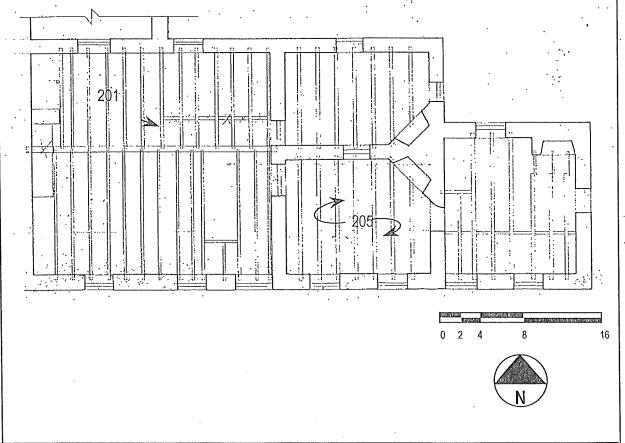


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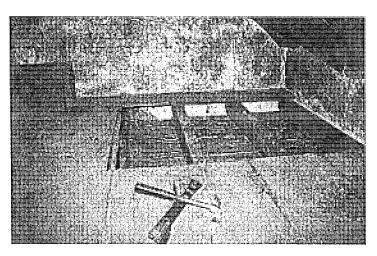


Floor boards were removed to investigate possible structural alterations-room 205

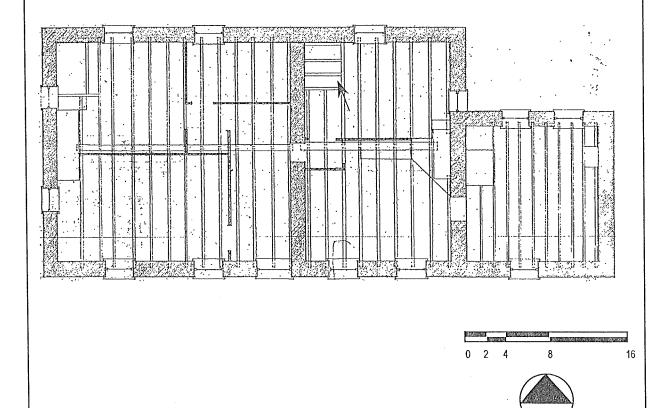




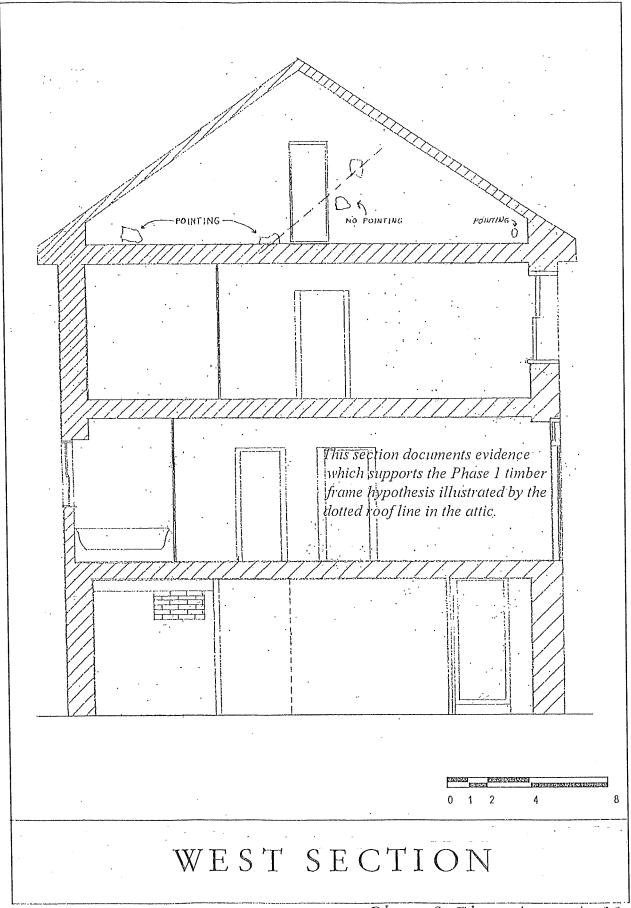
SECOND FLOOR FRAMING PLAN



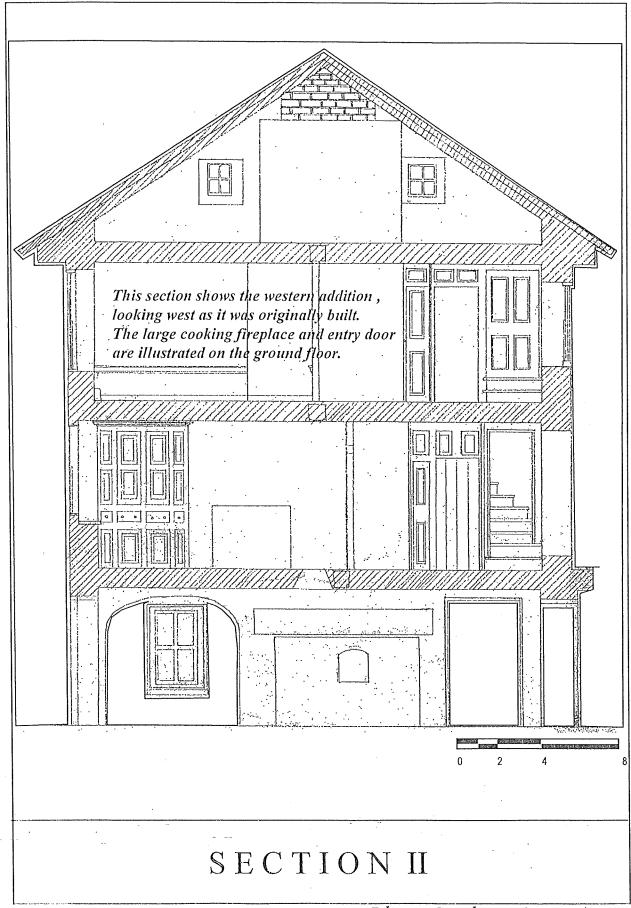
Changes in the structure indicate the presence of a stair in rooms 302 and 206, linking the second floor to the attic.



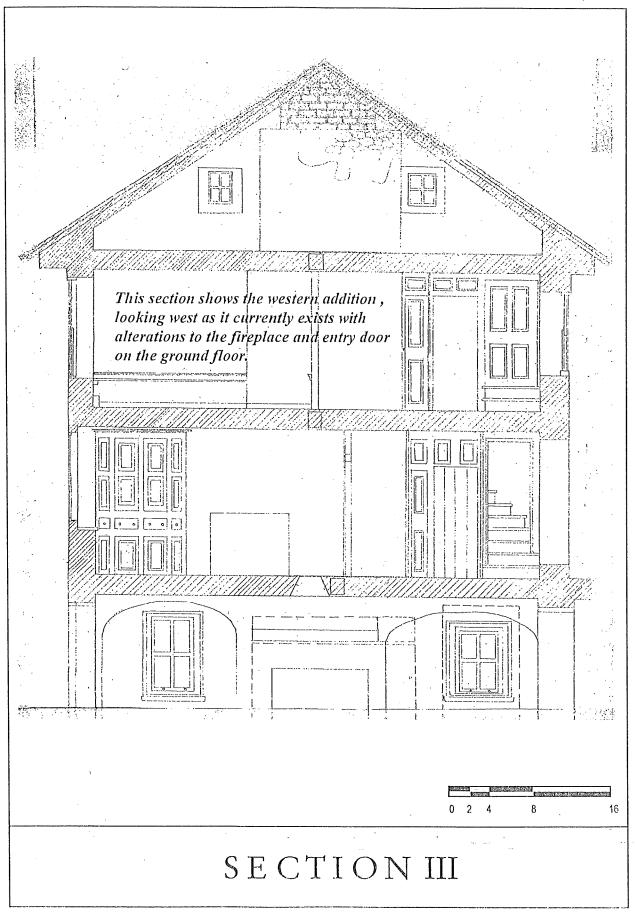
ATTIC FRAMING PLAN



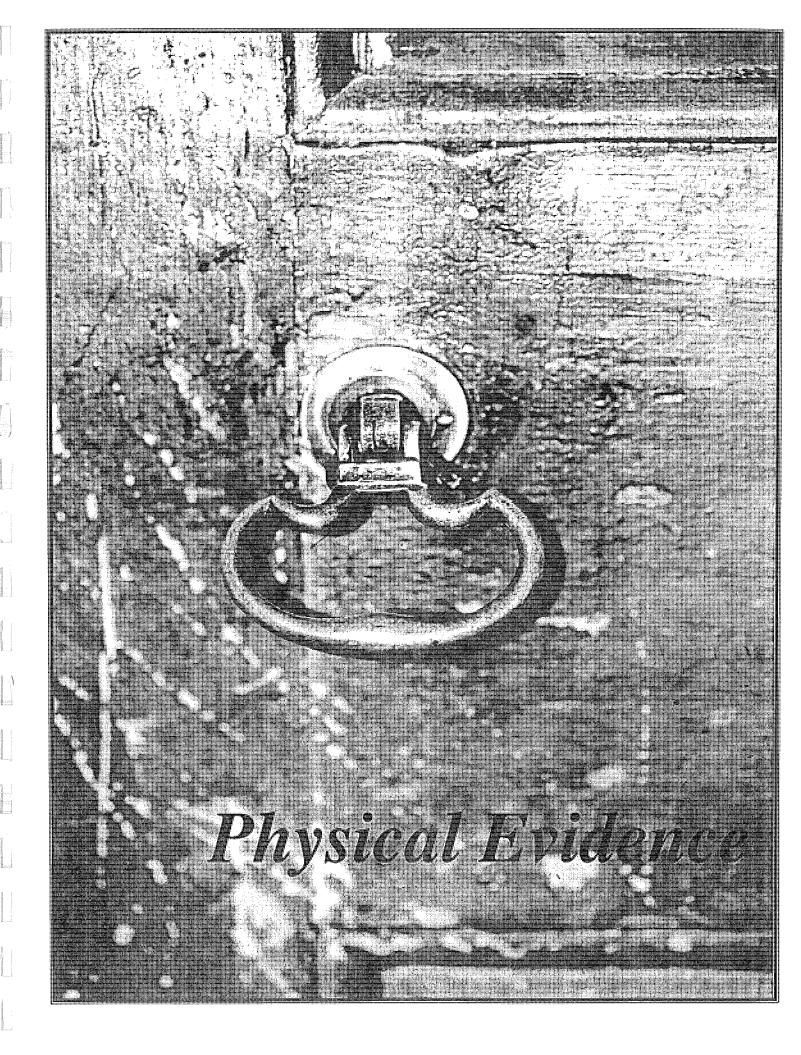
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# Laboratory Methodology

The conservation portion of the Cope House study analyzed paint, plaster, and mortar samples from each section of the structure.

Small paint samples were taken, mounted in a clear synthetic resin, and cut in With this technique, the cross section. successive history of the paint layers could be seen. The number of paint layers or features throughout the house averaged eight to fifteen varying according to the different phases with the earlier phases showing more layers. Most cross sections revealed an early use of lime wash and distemper paint on woodwork, which eventually gave over to oil based paints. The final layers of most of the woodwork was modern latex paint which was easily peeled off because of its incompatibility with the earlier layers of different material. Decorative painting found was dark banding in the wainscoting area and faux graining.1 The plaster analysis included examination of cross section of painted plaster, mounted like the paint samples. The painted plaster on the west section of the Cope House revealed only one or two layers of primarily distemper paint, indicating that this section had been replastered, possibly around the turn of the century.

The plasters were also analyzed for composition, percentage of carbonaceous material, and variation in aggregate size. Samples were taken from areas where the plaster had fallen off or was largely cracked. The analysis of the plaster composition was a multi-step process including microscopic examination; separation of any fibrous material to be mounted on a slide; separation, if possible, of the scratch coat from the finish coat; powdering of the samples; acid digestion of any carbonaceous material; and sieving of the remaining aggregate. The percentages of carbonaceous material and variously sized aggregate were compared to differentiate between the various plaster campaigns. In areas where the wall had been disturbed because of removal or addition of structural features, such as stairs or dividing walls, the patch and original plasters were analyzed. Analysis of the plaster composition revealed that the majority of the plasters were lime based with animal hair additives and mixed with local aggregate in the rough coat.

The composition of the mortars was analyzed in the same way as the plasters, with carbonaceous material and aggregate size being compared to differentiate between mortar campaigns. Samples were taken from the

<sup>&</sup>lt;sup>1</sup> The wainscoting was often painted with a black band at the base of the wall found in rooms 102, 104, and 203. Faux graining was found on the woodwork in room 002, and is still visible in rooms 201, 202, and the stairwell of room 003. The door to room 201 shows leaf patters in the faux graining rather than the usual wood graining.

exterior and exposed wall on the interior. The mortars were all lime based with some having fiber additives.

The results of the conservation study of the Cope House are detailed in Appendices B-D. These include a keyed list of locations where samples were taken, photos of the paint and plaster cross sections, and comparative charts of the plaster and mortar analyses.

# Paint Analysis

### Phase II

Room 106: The plaster samples show three main treatments of the wall. Below the chair rail there is a repetition of a characteristic series of layers with a thick green porous layer, followed by a thin bright red layer and one or two layers of white. The upper walls have either successive layers of white with a later yellow finish and a final white coating, or simply have a strong yellow color followed by the final white coating.

The south wall plaster samples show the green, red, white layer structure. This is found in samples 106.15 and 106.17-2 from below the chair rail on the south wall. Sample 106.17, also from below the chair rail, shows only a thin red layer followed by the white layers. The plaster sample 106.16, taken from the south wall between the windows, shows a different treatment. Here, the finish coat has a thick mustard colored layer, followed by a thin canary yellow layer, and then finished with a white. The west wall plaster sample taken from above the baseboard (106.18) shows several successive layers of white, followed by the thick green, thin red and white finish combination. The north wall sample (106.9) shows numerous layers of white, possibly limewash finishes, with two interspersed dark layers which are most likely dirt. These are followed by yellow, beige, and white porous layers.

The woodwork around the windows show white finishes on the sill and sash with a more colorful treatment of the frame. The southwest window sill (106.10) and window sash (106.12) have several thick layers of white coatings. Two samples taken from the southeast window frame show different layer structures. One shows only a white finish (106.14) from an area which had been scraped before repainting. The second (106.11) has thin layers of light green, off white, a possible graining campaign of brown and yellow, then blue followed by successive layers of white.

The north frame and west door of the room have different paint histories. The north door frame (106.8) has an off-white layer, a possible graining campaign with brown and yellow layers, followed by blue, white, a translucent yellow, and then several whitish layers. This layer structure is similar to that of the window and door from room 002. Samples taken from the west door have third rail and central stile differ from those taken from the lowest rail and middle panel. The third rail (106.20) and central stile (106.21) show a porous green primer then a white layer followed by a possible graining campaign with a brown resinous and a yellow layer. This is followed by incomplete black/dirt layers, light blue, white, yellow, white then the familiar green, red, white pattern. The lowest rail (106.19) and middle panel (106.22) show only the porous primer then white layer followed by the green, red, white layer structure.

The shelf (106.4) and the bottom rail (106.5) of the cabinet on the north wall both show successive layers of white paint. There is an extra black layer as the second layer found in the shelf which is not found in the cross section of the bottom rail. The interior of the cabinet shows a characteristic series of layers of thick green porous layer, followed by a thin bright red layer, and two or three layers of porous off-white finishes. This is seen repeated twice in 106.2 and only once in 106.1.

The chair rail on the north wall (106.6) shows a similar greenish porous primer, similar to that found on the west door, followed by whitish layers.

The floor board/wainscoting from the north wall (106.7) shows the darkest palette found in the room. The layers are a gray primer, dark green, black, gray, then successive white layers.

Room 107: The window on the east wall (107.1) shows two graining campaigns of yellow layer overpainted with a thin dark brown layer. This if followed by off-white, beige, then the final white finish.

Room 205: The south partition wall (205.2, 205.3) show only a few layers of white

paint. The cupboard is painted with only one layer of white (205.1

Room 206: The plaster samples taken from this room show two treatments. The first sample taken from the ceiling plaster at the center of the room four successive, whitish layers of porous material (206.1). The finish coat appears to have larger aggregate than the second sample. The second sample taken from the ceiling plaster next to the partition wall has three whitish layers, a thin dark blue layer and a final white layer (206.2).

## Phase III, Phase V

Room 002: The plaster walls reveal only two finishes, a green over an earlier yellow (plaster analysis observations). The woodwork from the window sill (002.2), window frame (002.3) and door frame (002.1) all show similar paint histories. After the initial primer follows two layers of possibly distemper paints in a dark and light brown, then a blue distemper layer, and then two faux graining campaigns. The final layer is the present white finish. The cabinet under the stairs on the east side of the room did not appear to have the same paint history.

Room 102: The plaster walls show two finish layers above the finish coat, an initial pink coating followed by the final green layer (102.2). Both paints appear to be a porous distemper paint. The south door shows only 3 layers of white paint (102.4). Both the window frame (102.1) and chair rail (102.5) show similar successive layers of porous possibly distemper paints. The window frame shows three light blue, three white, a pink, then two white layers. The chair rail exhibits a yellow primer coat followed by blue, white, pink, green layers, and a final white layer. Finally, the east wall partition shows a thick white paint followed by a yellow layer (102.3).

Room 103: The plaster walls show two treatments in this room. The first is a single coat of light blue porous paint on the plaster finish coat (103.6). The second shows a white finish coat, then a brownish finish coat which is covered with paper and then a dark blue paint (103.7). The woodwork show various treatments as well. The southwest window sill shows only two or three layers of white paint and no evidence of earlier porous paints (103.5). The north door on the other hand shows an early light blue layer, followed by 3 successive off-whitish porous layers, then a light pink layer, and then two more porous white layers (103.1, 103.2). The chair rail also shows an early light blue layer followed by several layers of white, that may possibly be two faux graining campaigns, and a final white layer (103.1). The east wall partition shows a light blue coat succeeded by the same dark blue coat found on the plaster (103.4). The interior of the built in cabinet on the southwest side of the room appears only to have been varnished (103.8).

Room 104: There were no plaster samples available in this room. The partition wall on the west side of the room showed a thick primer coat followed by two yellow layers, a light pink layer and then three or four coats of white paint (104.1). All layers except the last appear to be of the porous material. The wainscoting area appears to have been treated in much the same way though the area is more disturbed by traffic (104.2).

Room 201: The only sample from this room shows that the northwest window sill has only one coat of black, possibly a varnish (201.1).

Room 202: The only sample from this room shows the single finish coat of light blue over the finish coat of plaster (202.2)

Room 203: The samples taken from the baluster and banister of the stair show only one finish layer for each. For the baluster, there is only a primer coat and a white finish (203.1). The banister has a black varnish and a clear coat of wax or polish (203.2). The lack of paint layers indicates that this was a possible a later addition to the stairwell.

Room 204: There were no cross sections from this room.

## Phase IV

Room 108: Plaster from the west wall (108.2) has a green/blue, white, pink, then white layer structure. The window muntin on the east wall (108.1) shows a series of white layers.

Room 207: The plaster samples from this room show successive layers of indeterminate color, and a final yellowish finish (207.1, 207.2). Sample 207.1 shows microcracking throughout the finish coat and discoloration throughout the layers. The cracking and discoloration may have been caused by the fireplace on the other side of the

wall and the fire that seems to have occurred in room 205.

## Phase V

Room 001: The plaster walls show a paint history of two colors, the earliest a porous canary yellow, with a later application of a layer of plaster which is coated with a thick porous pink color which is extant (001.1). The woodwork in the room exhibits two histories. The window sill shows successive layers of white paint (001.3) while the southeast partition wall shows an early history of distemper paints of various colors, tans, green, yellow, dark green, and then five layers of white paint that resemble the window sill (001.2). The different histories may come from the removal of the partition wall from another part of the house or simply from a different treatment.

Room 101: The plaster sample found in this room shows a disturbed paint history, possibly from the water damage which has destroyed the east side of the room. The cross section shows five successive layers of possibly distemper paints all in a whitish color and a final coating in light blue (101.1).

# Exterior Mortar Analysis

Mortar analysis was completed on the Cope House as an additional tool to aid in dating the different building campaigns. The goal was to obtain the approximate composition of the pointing and bedding mortars in an attempt to establish a rough building chronology by means of comparison. The original intent of the analysis was not to develop formulas for restoration mortars, but the proportions given can be used as a first step in their creation.

The interior samples 007.3 and 007.4 of bedding mortar are approximately the same in binder to aggregate composition except for the number 100 sieve level and the amount left in the tray after sieving. Sample 007.3 has over half of its aggregate in the number 100 tray, and 007.4 has half of its aggregate as the smallest possible particles left in the tray. Sample 007.6 has fewer fine particles and a much lower ratio of binder. From this comparison, it would seem that the western wall is from a different campaign than the eastern building section, which matches the archival research and on-site investigation.

The exterior bedding mortars taken from the pit area (Ext.17,18,19) are comparable to each other in their composition (with the exception of 6.1 having larger aggregate), and are comparable to the sample taken from the northern building section (Ext. 13 and 16). It seems quite possible that the construction of the

northern section coincided with the addition of the pit area.

The bedding mortars on the south and west sides of the center section of the building (Ext. 6 and 12) are very similar in composition, and are similar to the exterior mortars from the northern section (Ext. 13). There is a significant difference between them and the percentage of binder in sample Ext. 2 from the east section. These similarities do not coincide with the archival and on-site findings that were used to date the building campaigns. These problems can help to illustrate why mortar analysis can not be used by itself as a dating tool, but as a method of confirming what has already been found.

The pointing mortars of Ext.11,1, 3, 4, 5, and 11 on the east, west, and south sides of the building are similar in composition. This would seem to indicate that all of the pointing mortar was made to a uniform white appearance that had nothing to do with advances in mortar technology but which was based strictly on aesthetic appearance.

In order to ascertain with certainty what the mortar compositions are, more testing must be done. Creating recipes for restoration mortars should be based on more conclusive evidence based on further investigation.

# Plaster Analysis

The analysis of several interior plasters provided confirming evidence for the building chronology. In most cases, these analyses can only corroborate information, since plaster is a surface finish and may represent replacement or re-application. However, some of the information was helpful in attributing various plaster campaigns to building campaigns. Most of the samples throughout the house consist of a brown coat., made with a lime binder, sand and at least one white finish of lime or gypsum.

In the basement section, samples were taken in rooms 001, 002 and 007. The plasters in rooms 002 and 007 were more similar in binder content than in room 001. Unfortunately the sample from room 001 has completely different results both visually and compositionally. It is possible that this sample represents some type of patch. The entire sample was gray with no true aggregate and may have been made entirely of Portland cement.

On the first floor, samples were taken in rooms 101,103,106, and 108. All of the samples, except for those in 103, have approximately the same percentage of binder. The sand content is slightly different, probably indicating different plastering campaigns. All of the samples in rooms 106 and 108 (both of which are in the center, Phase II, section) are

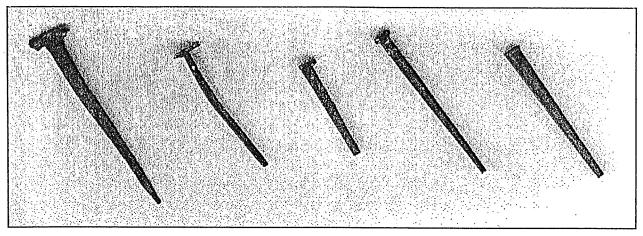
very similar. Samples from room 101 (from the southwest section) and 103 (from the northwest section) are also different enough to suggest different campaigns.

Samples from the second floor help confirm the building chronology more than any those of any other floor. One of the main questions on the second floor is that of the existence of a stair case located in room 106. A total of five samples were taken from the area around the stair and from the ceiling. Plasters 206.1 from above the placement of the staircase and 206.2, taken from an area of original plaster (probable), are very similar. Sample 206.3, taken where the staircase may have been, is very different than the previous two examples. This would indicate that a portion of the wall was replastered at some point upon the removal of the stair. Another question that arose is that of the change in placement of the partition walls which probably occurred after the removal of the staircase for the re-organization of the floor plan. From the proportion information obtained from these two samples, the center of the ceiling was a different campaign from the ceiling near the partition walls. A brief visual comparison of the aggregate between 206.1 and 206.2 confirms the difference in the two plasters.

In the attic, samples were taken from rooms 301 and 302 and, as expected, they are

similar but different enough in proportions to indicate different building campaigns.

Generally, the plaster analyses helped confirm what was suspected. As stated earlier, plaster analysis can only be used as confirmation and no determination of chronology should be based on these analyses alone.



Type I: T-shaped Hand Wrought Nail

Type II: Early Machine-Cut Nail with Handmade Head

Type IIIB: completely Machine-Cut Brad

Type IV: Early Machine-Head Cut Nail

Type V: Modern Machine-cut Nail

# Nail Analysis

Dating historic structures by nail type provides an ancillary method by which building phases can be determined, and can occasionally be useful in determining the earliest possible date that a building is constructed. However, it is not a precise technique and should only be used in conjunction with documentary research and analysis of other physical evidence. Handwrought nails, for instance, were manufactured in the early colonial period, but also were in use for their clinching properties as a finish nail in the late nineteenth century. Nails were often re-used,

being an expensive commodity before the industrial revolution, and nail manufacture varied by region. Hence, their value for dating purposes can vary from being critically important to being worthless circumstantial evidence.

Nail typology is determined by method of manufacture, size (weight and/or shank length), shape and function. For dating purposes, nail by manufacturing type is the most important, particularly in regard to the period 1790 to 1900. The main manufacturing types produced in the Philadelphia area are as follows:

- •Type I: Hand-wrought nails, produced from the 17th to 19th centuries.
- •Type II: Early machine-cut nails with handmade heads, produced from 1790 to 1810.
- •Type IIIA: Completely machine-cut sprigs and brads with notched heads and curved points, produced from 1805 to 1820.
- •Type IIIB: Unpointed completely machine-cut sprigs and brads (1810-present).
- •Type IV: Early machine-headed cut nails (1815 to late 1830s).
- •Type V: Modern machine-headed cut nails (late 1830-present).
- •Type VI: Modern wire nails (1850s-present).

These nail types are identified by physical characteristics as well as method of manufacture. In the sample taken from the Cope House, all but Type IIIA were found, providing a good representation of nails produced before 1850. Type VI nails were not used for analysis because they were employed primarily for small maintenance repairs and twentieth century alterations.

Collecting samples is a difficult process in the case of a building that is to be preserved, because it is an archaeological investigation in the sense that physical evidence is removed, never to be returned to its in situ location. Ideally, at least three to ten samples based on function should be collected from each room. These would include lath, casing, baseboard, flooring, chair rail, clinching (for door), cabinet, fireplace surround, panel and cornice nails, as well as general framing nails. Nails should also be taken from the exterior, from cladding materials, porches, roofs, and decorative elements.

In the case of the Cope House, it was decided that only enough nails would be removed that provided a general pattern for chronology. This was done to minimize damage to the building. Of ninety-two nails collected, fifty-nine were deemed in good enough condition for analysis. The other thirty-three were either badly deformed, broken or severely corroded. Nails were collected only if the heads were accessible and no nails were taken from the exterior, primarily because of time restraints and the fact that the house is built of stone.

For chronological analysis, the building was divided into four sections, representing four horizontal extant building phases: the center section, the west wing, the east wing and the northwest wing. Nails were identified by manufacturing type, physical characteristics and function. Types according to function were divided into seven categories; flooring, casing, baseboard, lath, stair tread (and riser), chair rail, and partition nails. Casing nails refer to trim elements for both window and door surrounds. Partition nails refer to thin partition walls made of beaded board or feather board, and to stair enclosures.

Of the fifteen nails taken from the center section, all but one were wrought nails. Five were thick shank headless flooring nails, seven were T—shaped baseboard (2), chair rail (2) and casing nails and two were rose-headed lath nails. The remaining non-wrought nail was an early machine-headed cut nail extracted from a built-in closet from the second floor.

In the west wing, twenty-one nails were collected. Of these, fifteen were wrought nails consisting of seven flooring nails with L-shaped heads, seven nails with T-shaped heads (two flooring, three stair tread, one baseboard and one partition), and one headless casing nail. Of the remaining six nails, three were early machine-headed cut nails (casing, lath, and partition), and three were modern machine-cut nails (two flooring and one casing).

In the east wing, thirteen nails were collected. One was a T-shaped wrought nail used for a stair riser. Two were early machine-cut nails

with handmade heads (casing and partition), one was a modern machine-cut casing nail, and the remaining nine were early machine-headed cut nails (two casing, two stair tread, two stair riser, and three flooring).

In the northwest wing, where samples were the most difficult to collect, there were ten nails. One was an L-shaped flooring wrought

nail, two were completely machine-cut casing brads, five were early machine-headed cut nails, (three baseboards, one lath, and one partition), and two were modern machine-cut flooring nails.

In order to ascertain a general chronology, percentages by nail type according to building phase were calculated. They are as follows:

- 1. Center Section: Type I; 93%, Type III: 7%
- 2. West Wing: Type I; 72%, Type IV; 14%, Type V; 14%
- 3. East Wing: Type I: 8%, Type II; 15%, Type IV; 69%, Type V; 8%
- 4. Northwest Wing: Type I; 10%, Type IV; 50%, Type IIIB; 20%, Type V; 20%

From these statistics, a general pattern The center section, with its preponderance of thick shank wrought nails, is likely to be the earliest extant building phase. The west wing, also with a high percentage of wrought nails, is likely to be the second phase. Its wrought nails are more refined than the center section, especially in flooring and casing nails. The east wing is probably the third phase. It has only one wrought nail, and since this was used for clinching purposes in a stair riser, it may have been installed late in the nineteenth century. It is likely this wing was built after 1790, the earliest date cut nails were manufactured. The complete absence of large wrought nails that are not designed exclusively for clinching purposes indicates the wing was not built before 1790, or that extensive alterations occurred involving the removal of all large wrought nails. The northwest wing is probably the fourth phase. While it has several early machine-headed cut nails similar to the east

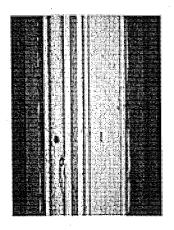
wing, it has a higher percentage of modern machine-cut nails that could not be extracted because they were very brittle and embedded in oak substrates. Also, the two window casing nails, both completely machine-cut brads, appear to be of a later nineteenth century variety, being highly refined and thin-shanked. The only anomaly of this wing was the existence of a singe L-shaped wrought flooring nail, but this may have been re-used to secure a loose floor board.

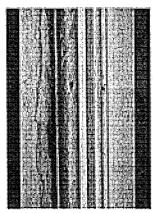
In addition to dating by manufacturing type, it became clear that nail refinement was also an issue. The earliest phase, the center section, has thick-shanked nails with either headless or large coarse heads. The west wing has many wrought nails, but the shanks are thinner and the heads are more delicate. In regard to cut nails, the east wing has nails that are more coarse than the northwest wing. In the cases of both wrought and cut varieties, nail refinement is helpful in differentiating building phases. This reflects the

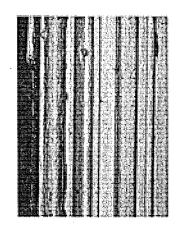
fact that over time improvements in manufacturing methods have allowed for the production of nails which require less iron, but perform the same task. This is a function of carbon content, with early wrought nails having low carbon content, and later cut nails having a high carbon content, such as the case with the brittle modern cut nails in the northwest section.

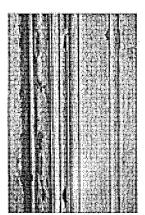
Based on the nail findings, a reasonable estimate of the date ranges of construction of the four extant building phases are as follows:

- Center Section: likely built before 1790, the first date of manufacture of cut nails. The only cut nail found was in a second floor closet that was added later.
- 2. West wing: likely built in the late eighteenth century or early nineteenth century. It has some early cut nails, but many more wrought nails. It also has a variety of both early and late cut nails, indicating substantial alteration, especially on the ground floor.
- 3. East Wing: likely built after 1815, the first date of manufacture of early machine-headed cut nails.
- 4. Northwest wing: likely built after the late 1830s, the first date of the manufacture of modern machine cut nails.
- ❖ Further information in nail analysis is provided in the appendix. Nails are photographed by building phase, numbered by manufacturing type and room location, and labeled according to function type. There is also a brief discussion on alterations within building phases and a commentary on cut nail analysis.









# Molding Profiles

It is difficult to positively date a building from its woodwork. Based upon a cumulative survey of extant physical evidence, the Cope House, as it exists, is a product of five different building campaigns, an evolution of approximately two hundred and fifty years. As the house evolved over time, so too did its ornamentation. There is a surprisingly large amount of existing original fabric within the Cope House, considering it found its final configuration by the 1830s. That stated, one can find early eighteenth century woodwork juxtaposed to twentieth century features. This juxtaposition of old and new is the product of routine maintenance and aesthetic changes to interior decor, a natural process to any inhabited space. Through all of this, however, original fabric from each phase was identified to roughly date its construction. A room by room survey was conducted of representative molding samples, specifically those embedded in plaster and thus considered original. Samples included windows, doors, door jambs, chair rails and partition walls. The findings were then compared with examples in regional architectural history books and information provided by John Milner.

### Phase I

Phase I no longer exists.

### Phase II

The oldest section still standing has a style of woodwork that dates it to ca. 1750. The profile of the chair rails in Rooms 106 and 205 support this date, as do original windows still in place, such as Window W2-106. Other windows retain many of their original features, yet exhibit evidence of alterations, such as sash replacement. Window W2-106, however, appears to have remained intact since installation. A feather board partition, typical to eighteenth century interiors, exists in Room 206. Door 1-107 and its jamb are also indicative of eighteenth century construction. These findings further support the mid-eighteenth century date attributed to this building campaign.

### Phase III

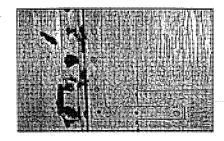
This section dates to the last quarter of the eighteenth century. The chair rail, door 1-103 and door jamb in Room 103 support this date as does the handrail of the center stairwell. Window W1-201 also corroborates this date.

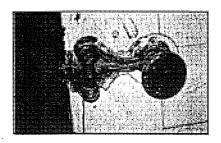
### Phase IV

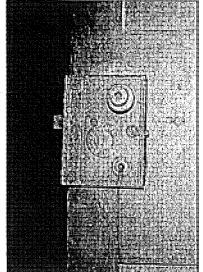
This section dates to the early nineteenth century. The window sill and apron of Window W1-207 have been dated between 1800-1830. The stairwell partition in room 108 also supports this time frame.

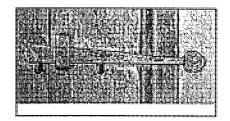
## Phase V

The last construction phase dates from 1838. This is corroborated by archival research The rounded window openings, as illustrated in the plan of Room 001, are typical Greek Revival elements as is Door 3-001.













# Hardware Summary

The Cope House Building Hardware is defined primarily as ironwork features found throughout the house. This category includes: door latches, bolts, lock boxes, and hinges but also includes similar hardware made of wood. The evaluation of nails and screws are covered in a separate study.

The Cope House was found to have examples of hardware representing eighteenth, nineteenth, and twentieth centuries. Like so many other houses of great age, it has evolved into its current structure and form with additions, modifications and modern adaptations for the families that lived there. The results of our investigations have confirmed this by physical evidence and eclectic variety of artifacts and architectural features.

The challenges in attempting to identify accurate dates for a structure's physical

evolution by hardware identification alone are many. In Albert Sonn's Early American Wrought Iron, he states that, "It is not (even) safe to assume that the wrought iron hardware on an early colonial home is contemporaneous with the date when the house was built." Unknown makers and craftsmen may have created their own or copied similar designs; many hardware items were replaced as fashion trends changed; modifications were often made and "fakes" were common. Even today, modern reproductions of classic period hardware, made with the same techniques and materials, are readily available.

Unfortunately, a number of the doors in the Cope House have been removed from their original locations, and much of the hardware has also been stripped from the house.

<sup>&</sup>lt;sup>2</sup>Albert H. Sonn, Early American Wrought Iron, vol. 1 (New York, New York: Charles Scribner and Sons, 1928) 1.

While an attempt to accurately date the building from hardware evidence may not be definitive, it may give us a relationship and a modicum of probability if we can identify the rooms which have similar pieces that date from the same period of time.

The oldest identified hardware is found in the center section of the house, which has been identified as the oldest surviving part of the structure. Wooden handle grasps, latch bars, and catches still remain in the basement of the center section on Door 1-006 (see photo).

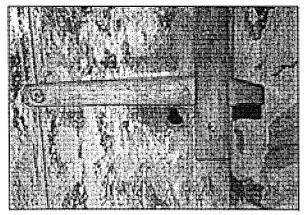


Fig. 4.1. Wooden Latch in Basement of Center Section, Room 006, Door 1-006.

The use of wooden door hardware in cellars and attics is consistent with the utilitarian nature of these rooms where usefulness, not display, was of importance.<sup>3</sup> These were primarily storage and work areas where visitors did not enter. Wooden hardware was less expensive than metal hardware and could be manufactured on location as needed. Other wooden hardware exists in connecting basement rooms and the attic. These doorways have been altered numerous times, providing little

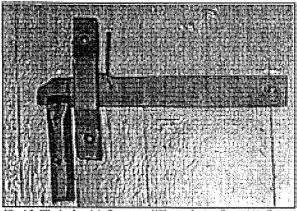


Fig. 4.2. Wooden Latch in Basement of Western Section, Roson 064, Door 1 204.

information relative to the dating of the building. The use of wooden hardware in these spaces reinforces the functional nature of wooden hardware.

Continuing in the center section, the wrought iron hardware is consistent with mideighteenth century construction. The passage doors of Rooms 106 and 107 that lead into the center hall, Room 104, and the passage door between Rooms 106 and 107 display the same hardware. The doors are numbered 1-106, 1-107, and 2-107 on the floorplan. The doors, all dated through molding profiles to the mid-eighteenth century, are hung on wrought iron pintles drawn to a sharp point. The pintles support 15 1/2" wrought iron strap hinges drawn to a spadeshaped point with a rolled barrel The strap hinges are mounted to the door with hand hammered rivets. The lack of ornamentation suggests the strap hinges are of English design, which is consistent with the settlement of the region. Dutch and German examples are clearly distinctive due to their embellished decorative

<sup>3</sup>Sonn. 6.

treatment.<sup>4</sup> Though pintle and strap hinges of this kind have been manufactured for centuries, and still are today, these are believed to be original to this section of the house.

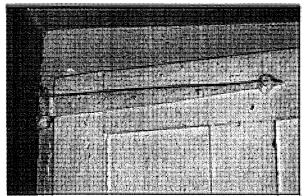
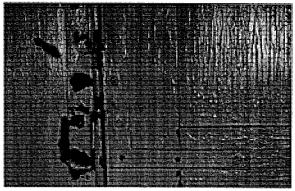


Fig. 4.3. Wrought Iran Strap Hings and Pinth in Center Section, Rason 106, Door 1-06.

The presence of the wrought iron hardware in the center section of the house helps to confirm the position of the rear wall of the initial 1 1/2 story western structure. The narrow width of the passage door from Room 107 to 104 was confusing upon initial investigation. It did not correspond with the wider doorway from 106 to 104 as one would believe it should. The first theory explaining the narrow width of that door was that it was broken though during the construction of the present western wing to provide access between the two buildings. But the consistency the hardware and molding profiles of the doors in Rooms 106 and 107 reveal that the doorway existed before the present western wing. By combining this information with the roof pitch of the original western structure discovered in subsequent investigation, the exterior wall of that structure was located just beyond the door

The door hardware on the second floor of the center section is not as conclusive. Only one door remains in its original location, Door 1-206, and the partition walls in this section were repositioned during the remodeling of the house for two families It is hung on "H-L" hinges which were introduced in the early 1700's and maintained their popularity well into the nineteenth century.<sup>5</sup>



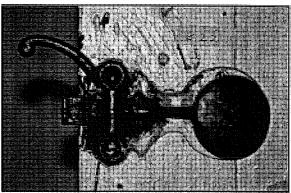


Fig. 4.4. "FIL." Hings in Caster Section, Room 206, Door 1-206.
Fig. 4.5 Spring Latch with knob and oblong handle grasp in Center Section,
Room 206, Door 1-206. Produced between 1750-90.

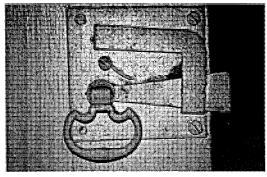
The latch system on the door is an unusual spring latch with a door knob and an oblong handle. Spring latches, also known as latch-locks, represent a transition period in door hardware from simple lift latches to locks. The latch-lock

opening, therefore limiting the width of its opening.

<sup>&</sup>lt;sup>4</sup>Henry Lionel Williams and Ottalie K. Williams, Old American Houses (New York: Bonanza Books, 1957) 103.

was the predecessor of the door lock and was produced between 1750 and 1790, but we have been unable to find a corresponding example to the oblong handled spring lock. Therefore, it is difficult to provide an accurate date.

The door hardware found in the western wing of the building is consistent with the established building chronology of the Cope House. The hardware on the passage doors of Rooms 102 and 103, Doors 1-102, 1-103, and 2-103, represent a later period of hardware, that of the latter part of the eighteenth century



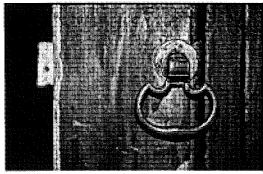


Fig. 4.6. Square Plate Spring Latch with Decorative Drop Handle in Western Section, Rooms 102 and 103, Doors 1-102, 1-103, 2-103.

Fig. 4.7 Brass Drop Handle on reverse of Square Plate Spring Latch in Western Section, Rooms, 102 and 103, Doors 1-102, 1-103, 1-203.

The molding profiles of the doors correspond to this time range, leading us to believe they are original. The latch-locks in these rooms were common examples of early square plate English latch-locks produced between 1750

and 1790.<sup>6</sup> A similar spring lock is also documented in George Fletcher Bennett's *Early Architecture of Delaware*.<sup>7</sup> As the picture shows, the latch is operated by a decorative drop handle on both sides of the door. The doors are hung on butt hinges, a development did not occur until about 1770.<sup>8</sup>

The hardware on Doors 2-102 and 2-104 is of the same time period as the square plate spring latch-locks in these rooms. They are examples of a popular Suffolk latch of the bean swivel variety with four incised lines in the center of the handle grasp that came into use after 1770. In earlier Suffolk latches, the lift passed through the bean-shaped upper cusp.

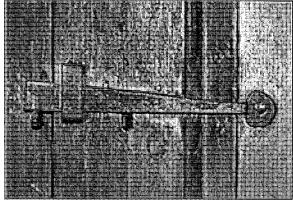


Fig. 4.8. Latch bur, Staple, and Cotch of Bour Sudred Suffelk Latch in Western Section, Rooms 102 and 104, Doors 2-102 and 2-104.

After 1770, the Suffolk latch, such as the examples noted above, was modified with the lift passing through a slot just below the upper cusp.<sup>9</sup>

<sup>&</sup>lt;sup>6</sup>Sonn, 230, plate 99, fig. 2.

<sup>&</sup>lt;sup>7</sup>George Fletcher Bennett, Early Architecture of Delaware (New York: Bonanza Books, 1932) 208.

<sup>&</sup>lt;sup>8</sup>Williams and Williams, 104.

<sup>9</sup> Williams and Williams, 109.

The dating of the hardware on the first floor of the western section places the construction of this section after 1770.

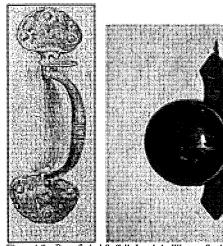


Figure 4.9. Heave Switzel Suffolk Latch in Western Section, Rooms 102 and 104, Doors 2-102 and 2-104. Produced after 1770, note the location of the thumb press and lift just below upper cusp.

Fig. 4.10. Mid-eighteenth century Knob Set in Western Section, Rooms 002 and 004, Doors 1-002 and 2-004.

The hardware in the basement parlor of the western section, Room 002, is of a period later than that on the first floor of this section. But the hardware is concurrent with the conversion of the room from a kitchen to a formal parlor. The remodeling occurred as the house was enlarged to accommodate two families.

The hardware in Room 002 is similar in age hardware in the rear addition Rooms of 001 and 101. The doorknobs and escutcheon plates on the cold cellar door and stair door of 002 are of the mid-nineteenth century (see photo).

The hardware on the stair doors in Room 001, Doors 4-001 and 5-001, are examples of late hand wrought Norfolk latches that were produced until about 1840. After 1840, Norfolk latches were cast and mass-produced. These door latches were a common and popular latch. They were comprised of a plain iron bar mounted with

screws, a swaged ball ornament in the center of the handle grasp, and a bean thumb press. 10 There is also the shadow of a rim lock which has been removed and cannot be dated. The door hardware in Room 101, though different, is also of the same time period. The door latch is an exact match of the Blake Latch which was patented in July 21, 1840 (see photo). The dominant upper cusp, the screw locations, and the catch are same as the Blake Latch. 11 The Blake Latch represents the beginning of mass-produced cast-iron hardware in America.

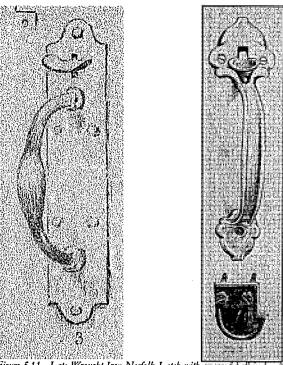


Figure 5.11. Late Wrought Iron Norfolk Latch with surged but in bandle grasp in rear addition, room 001, doors 4-001 and 5-001. Production of wrought Norfolk latches halted in the 1840s
Figure 5,12. Blake's Patented Cast-Iron Latch (US Patent july 21, 1840) in rear addition, room 101, door 1-101.

<sup>&</sup>lt;sup>10</sup>Sonn, 212, plate 90, fig. 1-6.

<sup>11</sup> Sonn, 216, plate 92, fig. 1.

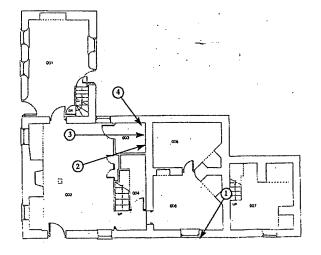
## Annotated Floor Plans

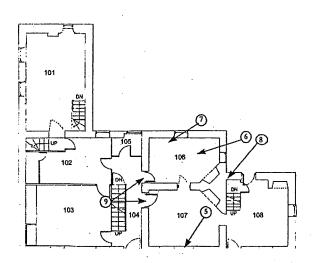
#### Phase I&II

Phase I no longer stands. The following observations lead to the conclusion that there was a Phase I structure to which Phase II was added.

- 1. Evidence of an exterior basement entrance to Phase II, but no evidence of a stairway connecting the basement to the first floor. (Therefore if there was a connection between the two floors it must have been in an adjacent structure.)
- 2. Finished pointing mortar in this location indicates that the stone wall was exposed to weather when originally built. (Therefore, the north wall of Phase I must have been located to the south of this pointed area of the Phase II wall.)
- 3. Window W-106, in the west basement wall of Phase II, indicates that the north wall of Phase I was located to the south of this opening.
- 4. West foundation wall of Phase II is rough on the southern part, indicating that it was dug in, while the northern part is smoother indicating that it was exposed. (Therefore,

- Phase I was located on the southern side of the west wall of Phase II.)
- 5. No evidence of an original exterior entrance to Phase II. (Therefore entry must have been located in an adjacent structure-Phase I.)
- 6. No evidence of a stairway connecting the first and second floor of Phase II. (Therefore a stairway must have existed in an adjacent structure-Phase I.)
- 7. No evidence of a cooking fireplace in Phase II. (Therefore cooking must have occurred in an adjacent structure-Phase I.)
- 8. Stone flashing course on the east gable wall of Phase II indicates that there was originally a gabled cornice in this position. (Therefore it is unlikely that Phase I was located to the east of Phase II, but rather to the west.)
- 9. Phase II entered form Phase I through two doorways on the first floor and one on the second floor
- ( these represent the only access to Phase II on these floors, indicating the existence of Phase I.)





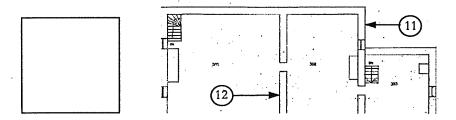
GROUND FLOOR PLAN

FIRST FLOOR PLAN

## Phase I&II (CONT'D)

- 10. Evidence of a stairway connecting the second floor and the attic of Phase II (it may be assumed, therefore, that the Phase I structure was not as tall as Phase II, or the stairway would have continued to the attic level where a connection to Phase I would have been made.
- 11. Stone flashing course on the east gable wall of Phase II indicates that there was originally a

- gabled cornice in this position. (Therefore it is unlikely that Phase I was located to the east of Phase II, but rather to the west.)
- 12. Evidence of the probable roof line Of Phase I exists on the west face of the west gable end wall of Phase II. (Visible in the attic of Phase III).



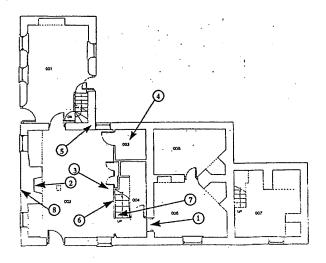
SECOND FLOOR PLAN

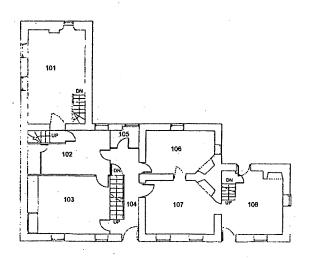
ATTIC FLOOR PLAN

### Phase III

- Door 1-005 was cut through the masonry to connect Phase III to Phase II, indicating Phase II preceded Phase III.
- 2. Evidence of a larger cooking fireplace in room 002, which was converted into a parlor fireplace in the Phase V alterations.
- 3. Cut floorboards in room 002, indicating the existence of a cold cellar before this room was changed into a parlor in Phase V.
- 4. Foundation wall in room 003, indicating the existence of a cold cellar before the room was changed into a parlor in Phase V.
- 5. Finished plaster found on foundation, indicating the existence of a previous, larger cold cellar in Phase III.

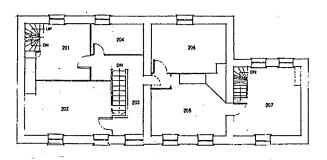
- 6. Joint in floorboards the original Phase III floorboards survive to the east of the joint and were retained because they supported the original stair partition.
- 7. Change in ceiling framing and stair supports indicate that the original Phase III stair was steeper than the existing stair.
- 8. Evidence of infilled masonry and soot indicate the presence of an exterior bake oven.
- 9. Evidence of the original gable end cornice (now missing).
- 10. Door 1-302 was cut through the masonry to connect Phase III to Phase II, indicating Phase II preceded Phase III.



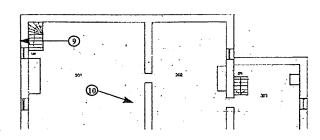


GROUND FLOOR PLAN

FIRST FLOOR PLAN





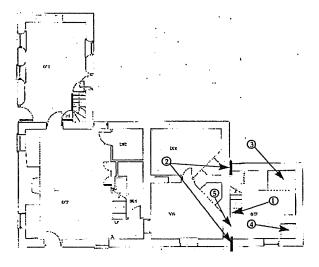


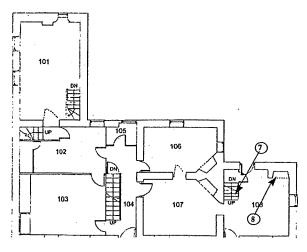
ATTIC FLOOR PLAN

### Phase IV

- 1. Irregular face of the foundation wall indicates that it was built into the earth, therefore Phase II preceded Phase IV.
- 2. Butt joint of Phase IV to Phase II.
- 3. Foundation for large fireplace on the first floor is original to Phase IV.
- Foundation for a missing feature of Phase IVpossibly an oven or kettle stand.
- 5. Evidence of a previous window lintel, indicating that door 1-108 was created by changing a window to a door to connect Phase IV with Phase II.
- Original exterior pointing indicates that Phase II preceded Phase IV. (also noted on 2<sup>nd</sup> floor and attic plans)
- 7. Stair dates from original construction of Phase IV (see 2<sup>nd</sup> floor, item #9)

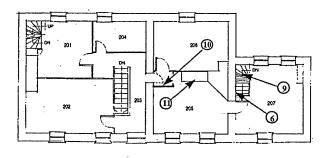
- 8. Existing fireplace represents a reduction in size from the original cooking fireplace. (Date of reduction is unknown).
- 9. Stair dates from an alteration to Phase IV.
- 10. Nail and woodwork evidence indicate a partition added, possibly in Phase III.
- 11. Nail and woodwork evidence indicate a closet was added in the 19th century.
- 12. Flashing course for gable end cornice of Phase II indicates Phase II preceded Phase IV.
- 13. Existing chimney replaced original Phase IV chimney which served cooking fireplace and other feature (see item #4).
- 14. Door 1-303 was cut through the masonry, rather than built during construction to connect the attic of Phase II to the attic of Phase IV.

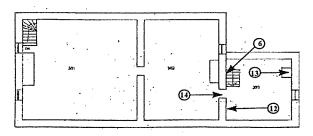




### GROUND FLOOR PLAN

FIRST FOOR PLAN





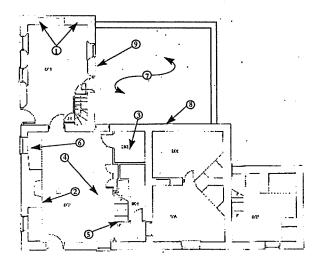
SECOND FLOOR PLAN

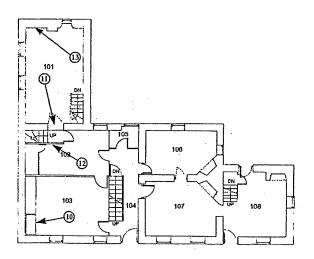
ATTIC FLOOR PLAN

### Phase V

- 1. Stone arches in the basement below room 001 indicate the existence of a large cooking fireplace in room 001.
- 2. Evidence of a larger cooking fireplace in room 002, which was changed to smaller formal parlor fireplace when the new kitchen was added in Phase V.
- 3. Cold cellar in room 003 was removed.
- 4. Most of the flooring in room 002 was replaced, probably when room was changed.
- 5. Stairway in room 004 is enclosed with plaster partition when room 002 is changed into a parlor.
- 6. Window W2-002 is changed from a door to a window with decorative arch to match the existing arch to the south.
- 7. Courtyard was created to the east of Phase V building (the window and door on the ground

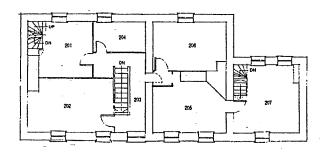
- level in Phase V were built to open to the courtyard.
- 8. Irregular surface of exposed foundation wall indicate slope of original (Phase II & Phase III) grade.
- 9. Plumb finish of wall (stuccoed) indicates courtyard dates with the construction of Phase V.
- 10. Woodwork of the cupboard along the west wall and the chair rails of room 103 were designed to match the original woodwork of Phase II, but analysis proves them to be copies, indicating Phase III was remodeled when Phase V added.
- 11. Door 1-101 was changed from a window to a door to connect Phase III to Phase V on the first floor.
- 12. Partition wall in room 102 was added.
- 13. Original fireplace reduced in size (date unknown) following original construction.

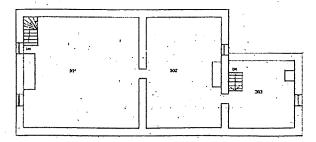




#### GROUND FLOOR PLAN

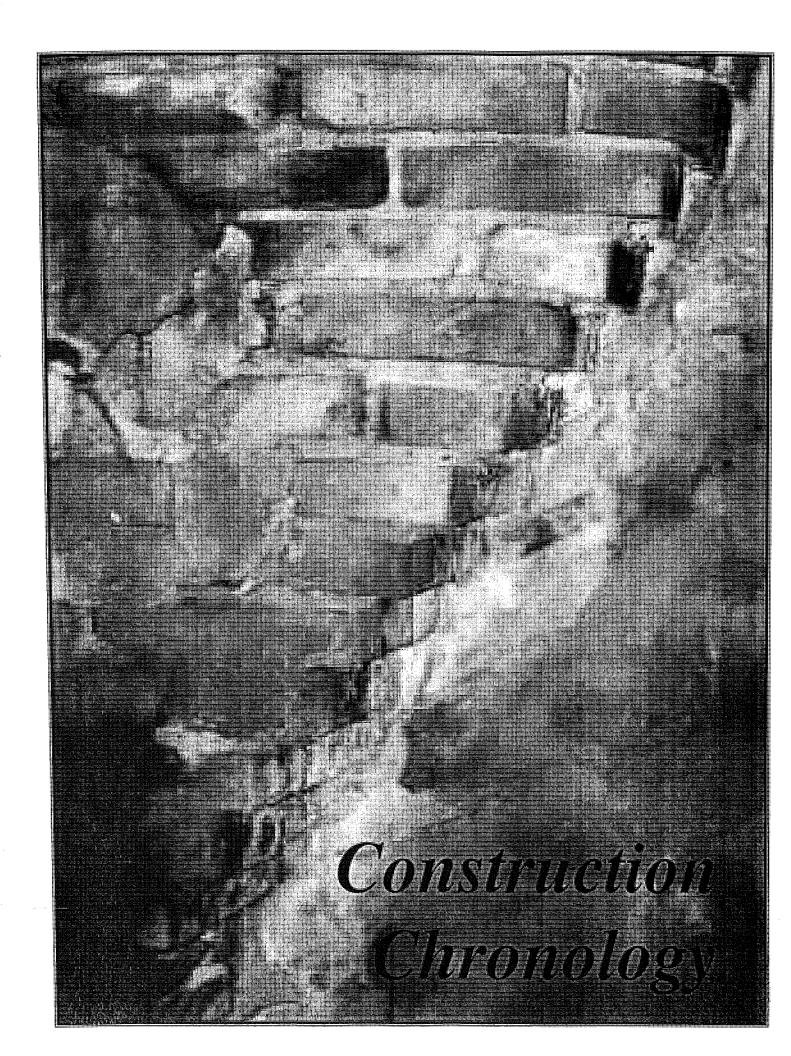
FIRST FLOOR PLAN





SECOND FLOOR PLAN

ATTIC FLOOR PLAN



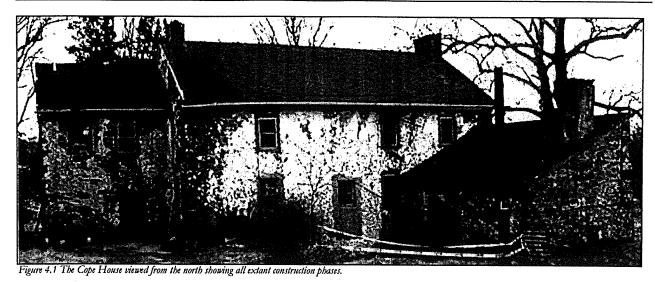








Figure 4.2 Phases I &II Figure 4.3 Phases II &III Figure 4.4 Phases II, III &IV A view looking southwest of the five phases of the construction chronology of the Cope House in model.

# Construction Chronology of the Cope House

The construction chronology of the Cope House was determined by analysis of extant physical evidence in conjunction with documentary research. Five major building campaigns have led to the structure as it stands today. Four of the five campaigns remain.

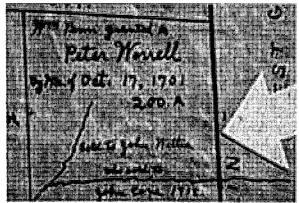


Figure 4.6 Map of East Bradford Township. Brinton (1912)

In 1712, John Cope purchased a tract of land in East Bradford from John Willis. On this piece of land, he built a small house. It is surmised that this was a one and one-half or two story structure of frame construction. This building, which represents Phase I, no longer exists. In the mid-eighteenth century, a two story stone addition, designated as Phase II of the construction, was erected to the east of the Phase I structure. Prior to 1798, this building was demolished and replaced by Phase III, a two story stone building with full basement space, joined to the west gable of Phase II. In the first quarter of the nineteenth century, a stone addition, designated as Phase IV of construction, was

erected to the east of Phase II. During the middle of the nineteenth century, a two story stone addition, designated as Phase V, was constructed to the north of Phase III. At the same time, a recessed courtyard was constructed, enclosed by Phase V to the west and Phases II and III to the south. The building has remained basically unchanged since the completion of Phase V.

### Phase I & Phase II

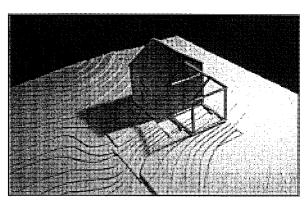


Figure 4.7 Model of Phase I & II (Phase I is shown as a frame structure

Although study of Phase II shows that it is the oldest structure standing on the site, it was actually an addition to an earlier structure. Evidence discovered in Phase II indicated that an earlier structure existed; the absences of an exterior first floor entrance, vertical connection between the first and second floors and cooking fireplace. The Phase II structure has three first floor windows, two on the south facade and one on the north facade. No evidence was found to indicate that any of these openings was originally a door. The doorways on the east and west gable walls were installed to connect with west (Phase I) and east (Phase IV) additions. Although there was an exterior entrance to the basement of Phase

II, there is no evidence of a stairway from the basement to the first floor. It would be impossible, therefore, to get to the first floor of Phase I without the existence of a stairway in another building. Similarly, there is no evidence of a stairway from the first floor to the second floor in Phase II, suggesting that there was a stairway in an adjoining building. There is, however, evidence (in room 206 of Phase II) of a stair from the second floor to the attic. It may be



Figure 4.2. Diagonal lines on the planter walks of room 20th indicate evidence of a previously existing stair

surmised that Phase I was one and one half or two stories in height and was entered from the exterior at the first floor level. Phase II was entered from Phase I through doors 1-106 and 1-107 and also on the second floor through 1-205. From 206, it was possible to get to the attic via stairway (now missing) for which clear evidence exists.



Figure 4.9. Franced in opening in room 302 of stair from reson 206. Stair was removed in the late eighteenth century.

Another feature of Phase II which points to the existence of an earlier structure is that there is no evidence of a cooking fireplace in Phase II. At the time the building was constructed, a cooking fire was essential. The lack of a cooking area supports the theory that Phase II was an addition to an earlier building which had a kitchen.

The presence and absence of finished masonry pointing, the placement of window W1-006 and the existence of the stone flashing course for a gable end cornice on the eastern wall of Phase II confirms the position of Phase I to the west of Phase II.

Finished masonry pointing, a characteristic of an exposed exterior surface, can be found in the northeast corner of room 104. This suggests that this wall was originally exposed to the weather. Investigation of a similar section of the wall toward the south finds no evidence of finished pointing, indicating that this section of the wall has never been an exterior surface. To corroborate these findings, evidence of a roof line of Phase I is discernible on the eastern wall of room 302. This is evident by tracing the absence



Figure 4.10. Finish painting found under planter in the atthe resealed the single of the roofline of the timber-framed structure of Phase I.

of finished pointing. In addition, the existence of window W1-006 in the northwest corner of the basement of Phase II necessitates that the north wall of Phase II existed to the south of the opening.

As previously mentioned, through the investigation of extant fabric, it has been concluded that Phase II is the oldest surviving element of construction, erected circa 1750 when John Cope enlarged his house by adding a two story stone structure to the east. The addition, 17 ft X 26 ft, was two rooms deep and had two corner fireplaces on the eastern side. For this new addition, a basement was dug. A significant indication that Phase II is the earliest structure still standing is that most of the foundation walls have extremely rough exterior faces. The stone was laid directly abutting earth giving it the uneven appearance. However, in the northwest corner of room 004, the character of the foundation wall changes. Here it is smoother because Phase I was located toward the south of Phase II. The smoother foundation wall occurs where the wall was exposed to the basement of Phase I rather than dug into the earth.

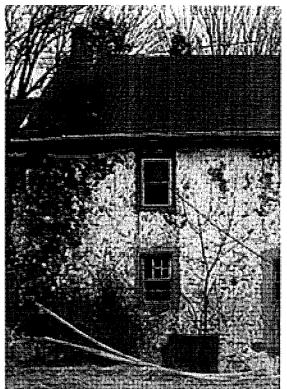
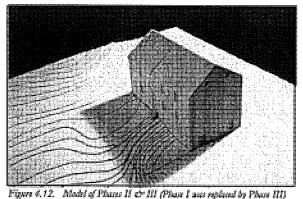


Figure 4.11. Correct condition of Plans II from the North.

Nail analyses from Phase II show all the nails to be large and hand wrought. This, as well as the molding profiles of the woodwork, point to Phase II being the oldest extant phase of construction.

### Phase III



Phase III occurred prior to 1798. The

Direct Federal Tax from that year describes Nathan Cope's house as a two story, stone house with eighteen windows, each having twelve lights. In the tax, the building's dimensions are 45 ft. X 27 ft.. The number of windows and the dimensions correspond to Phases II and III. In 1773, John Cope died and left the house to his son, Nathan. It may have been at this time that Phase II was built. Woodwork analysis dates Phase III to the last Quarter of the eighteen century. It is possible that when Nathan Cope acquired the property, he enlarged the house.

The Phase III building campaign consisted of a two and one half story stone structure with a basement and attic built to the west of Phase II, replacing Phase I which was demolished. The total house dimensions then became 45 ft X 26 ft. The overall plan had a center hall, five bay, two room deep configuration with end chimneys. Evidence supporting this are door 1-005 and door 1-302, broken through the masonry walls after their initial construction to connect the basement and attic rooms.

Room 002 was the kitchen when originally constructed. The remains of a footing for a step-down cold cellar with stone walls found in the northwest corner of the room (where Room 003 is currently located). The foundation walls had finish plaster on them, indicating that they were interior walls at some point. Additionally, the exposed ceiling joists were whitewashed in the cold cellar, whereas the rest of the ceiling was plastered.

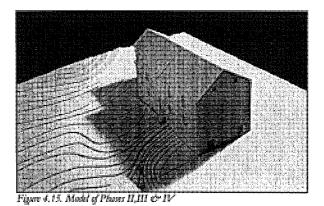


Figure 4.13. Finish plaster on the stone foundation walls of demolished cold cellur was found under the floorboards in Room 002.



Figure 4.14. Current condition of Phases II & III from the north.

### Phase IV



In the early eighteenth century, between 1815 and 1830, a stone addition was erected to the east of Phase II. It was two stories in height plus an attic and full basement, opening to grade on the west side. It was aligned with the south walls

of Phases I and II, creating a building with a 57 ft., seven bay, south facade. This appearance remains to the present. The Phase IV structure included a new kitchen, enabling the house to be used by a second family. The house was used as a two family residence until present.

Molding profiles taken from this phase as well as nail analysis date it to the first quarter of the nineteenth century. To connect the buildings, a doorway1-108 was created where a window used to be. The window lintel is still evident in the door opening and the original window sash is now in window W2-108. Similarly, door 1-303 in the attic was created.

### Phase V

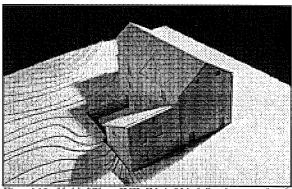


Figure 4.16. Madel of Phases II,III,  $IV \Leftrightarrow V$  including the coordinat to the east of Phase V

The rounded Greek Revival style of the window jambs date the northern addition, designated as Phase V, to the second and/or third quarter of the nineteenth century. All of the nails in Phase V are machine cut, and of a type which became available only after 1830. In 1838, Caleb Cope married. From his diary, we know that during the same year, prior to his bride's arrival, there was construction going on in the house.

This corroborating evidence indicated that the northern addition, a stone, one and onehalf story building, was erected in 1838 by Caleb for his new bride. The dimensions of the structure are 15 ft X21 ft. Simultaneous to this addition, a courtyard was created to the north of the house. This is framed by Phase V to the west and Phases II and III to the south. Although the courtyard is quite deep today, the grade was five or six feet lower than it's current condition. We know that the design of the courtyard (with a partial brick paved surface and indications of the existence of a shed structure) occurred simultaneously to the building of Phase V because door 2-001 and window W3-001 are the original features and would not have been buried below grade.

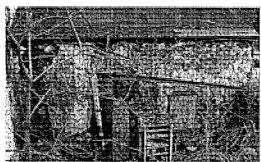


Figure 4.17. The Phase V addition opening into the courtyard

The addition contained the new kitchen with a large fireplace supported by stone arches in the basement under room 001. The construction of the new kitchen allowed for the remodeling of room 002 into a parlor. This room was completely reworked and features of the remodeling corroborate the 1838 date. The

woodwork of the cupboard and the chair rail date them to this period although they were designed to match the original woodwork of Phase II. Similarly, the surrounds if the windows along the southern wall of room 002 are typical features of the 1830s.

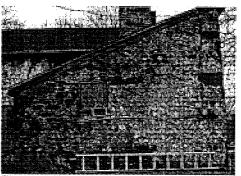
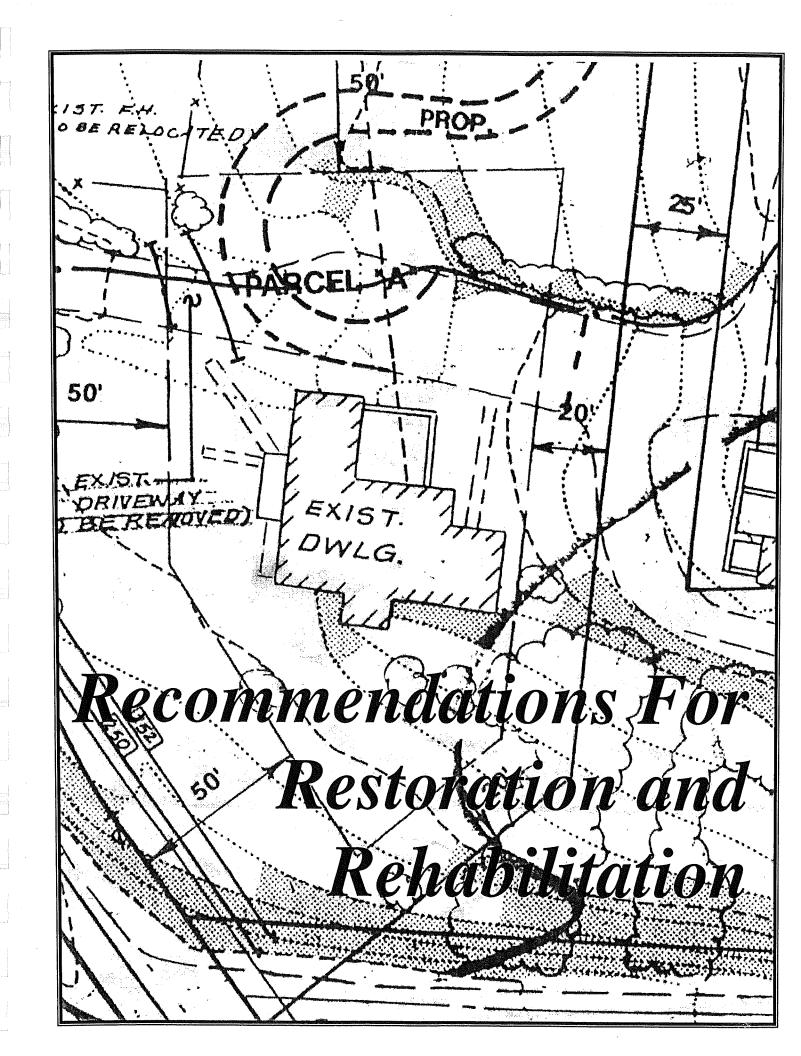


Figure 4.17. The Phase V addition in present condition from the north.



### Recommendations

The Cope House has had a long and varied history reflecting the cultural development and vernacular architecture of Southeastern Chester County. Based on the building's historical and architectural significance, which has been documented in this report, it is appropriate to consider strategies for preservation and restoration/rehabilitation.

It is recognized that economic issues will influence the approach which is taken in preserving the Cope House, This approach could, in the best situations, result in a careful restoration which would return the building to it's appearance at a specific period in history. More likely, however, is an approach which will rehabilitate the house to serve as either a residence or office, while preserving the essential character of the facades and as much of the original interior configuration as possible. The following recommendations have been prepared to assist the current and future owners in assessing the requirements for a sensitive rehabilitation.

- > Short term repair and long term replacement of the roof covering (wood shingles would be most appropriate: fiberglass reinforced asphalt would be acceptable).
- > Repair of rafter ends and cornice (replacement of the existing cornice with one
  - of the historically correct profiles would be ideal: replacement in kind would be acceptable)

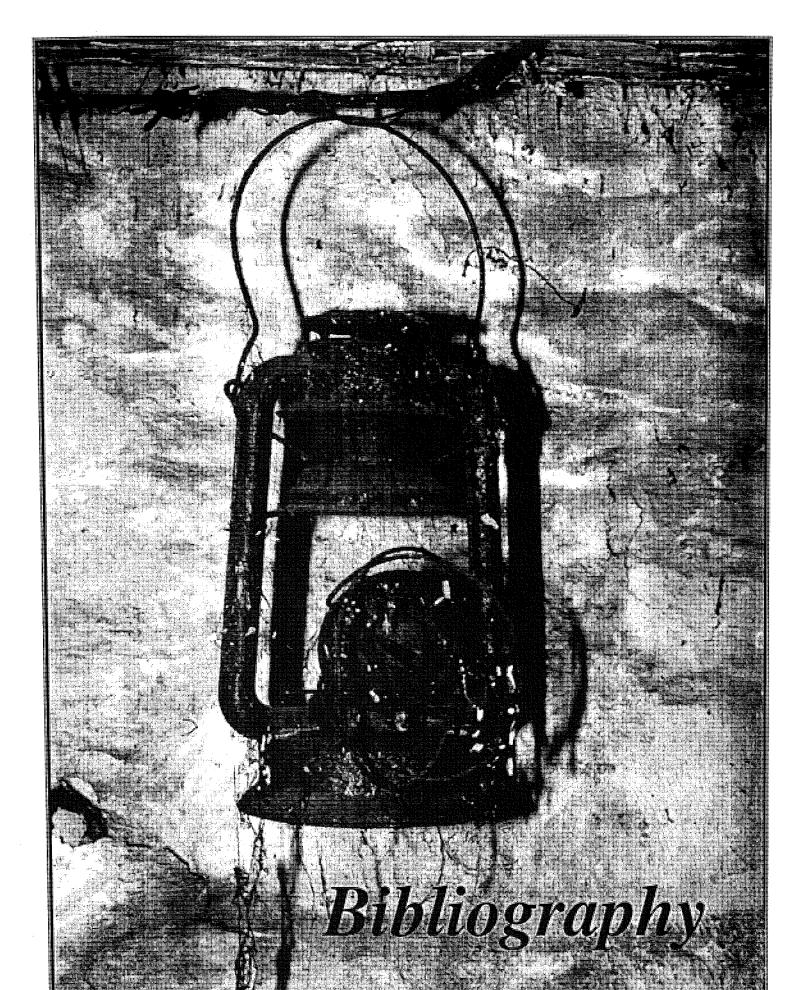
#### HIGH PRIORITY

HIGH PRIORITY

➤ Installation of new gutters and downspouts.

HIGH PRIORITY

- Re-stucco the exterior wall surfaces (removal of the existing deteriorated stucco and repointing of the stonework would be ideal, however, impractical under the circumstances.
- PRepair the existing window frames and sash (these features are extremely important to the architectural integrity of the house replacement of the frames and sash, except where severely deteriorated, should be avoided.)
- > Repair the existing door frames and doors.
- > Install new heating, plumbing and electrical systems.
- Preserve, to the extent possible, the existing floor plan configuration (the arrangement of the rooms is an important architectural feature of the house and should be retained.)
- Preserve and restore, to the extent possible, the surviving original, interior wood trim, doors, board partitions, flooring, cabinets, stairways and other features.
- > Preserve and repair original, existing plaster walls and ceilings.
- ➤ Create positive drainage for the recessed patio on the north side of the house (this patio is an historic feature of the house and should not be filled in unless drainage problems cannot otherwise be resolved). Provide protective railing at grade around the patio.
- Repair porch foundations on the north side of the house and construct new porch.
- > Have the fireplaces and chimneys checked and repaired/rebuilt as required.
- Adjust the grade around the house to create positive drainage (i.e. away from the walls)



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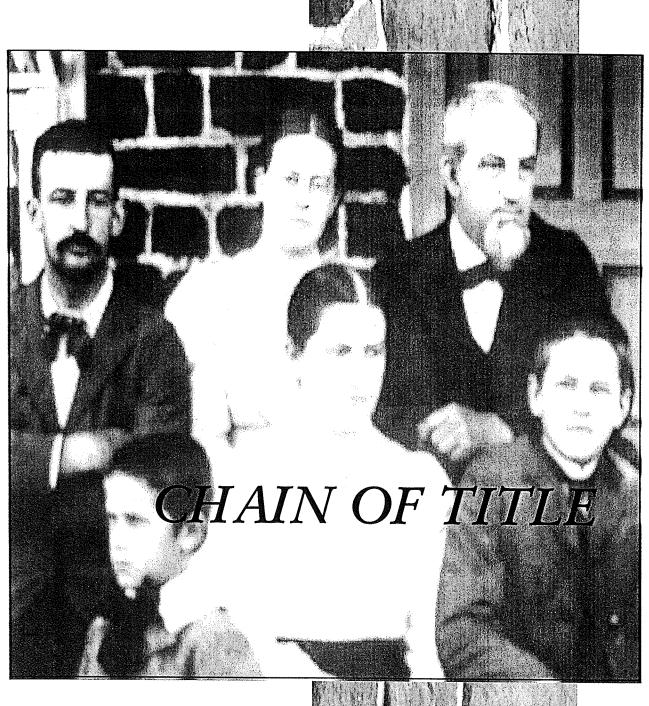
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Appendix A

#### December 1706

Peter Worrall To John Willis Patent Book A13, p. 328

Peter Worrall of Marple in Chester County sells two hundred acres (no messuage) to John Willis of Birmingham, also in Chester County for the sum of twenty pounds.

April 30, 1712

John Willis To John Coope Deed Book B, p. 314

On "the thirtieth Day of the Second Month April in the [Thirteenth] Year of the Reign of our Sovereign Lady Ann Queen of Great Britain &c and in the Year of our Lord one thousand seven hundred and twelve... John Willis of Thornburg in the County of Chester and Province of Pennsylvania a Carpenter & Esther his wife" sold the property, for twenty-five pounds, to "John Coope late of Newcastle but now of [Concord] Township in the said County of Chester yeoman." The description of the property is as follows: "A certain Tract or [parcel] of Land Situate lying and being in the Township of Bradford in the said County beginning at a Corner Marked Hickory tree being a Corner of [Howard] Wantons Land Thence North North West by the Welsh Tract two hundred and five perches to another Hickory tree West by South by vacant Land one hundred and sixty perches to a Hickory Thence South South east by the Land of Obiah Taylor two hundred and five perches to a post Thence East by North by other land of the said [Howard] Wanton one Hundred and sixty perches to the place of beginning Containing by Computation two hundred Acres (be the same more or less) and is part of a Greater Tract of Land which Peter Worrall late of Marple in the County of Chester Deceased for Valuable Consideration & Purchase of William Penn Propret'y and Gov. of the said Province Which said Peter Worrall the said two hundred acres of Land (more or less) by a Conveyance there of made for the Consideration therein [ Convey'd the same to the said John Willis..."

March 12, 1773

John Coope, deceased To Nathan Coope (son)

Will #2756

John Coope's will, written in 1769 and settled in 1773, indicates that he had already given part of his property in East Bradford to his oldest son, Samuel: "...I give and Bequeath unto my son Samuel Coope the Sum of five Shillings current Money of ye said Province, added unto the Messuage Plantation and Tract of Land which I have conveyed unto him his Heirs & Assigns." John Coope left the western portion of the

land – the subject lot – to his son Nathan. By this time, a house had been erected on the property: "...I Give and Devise unto my Son Nathan Coope his Heirs and Assigns forever all that my messuage Plantation and Tract of Land whereon I now live Situate in ye said Township of East Bradford being Butted and Bordered as followeth Viz Beginning at a Hycary Tree being a Corner of Jonathan Parks Land, & by the same Land South South East, Two Hundred and five perches to a Post thence East by North by Nathan Hoops Land Eighty four Perches to a Corner of my Son Samuel Coopes Land, and by the same Land North North West Two Hundred and five perches to a Corner, thence West by South Eight four Perches to the place of Beginning, Containing One Hundred Acres be it more or less..."

At the time of his death, John Coope also owned land and a "small house" on the north side of Mulberry, or Arch, Street between Fifth and Sixth Streets in Philadelphia, which he divided among his three youngest sons, Caleb, Joshua and Joseph.

1820

Nathan Coope (deceased) To Benjamin Coope Will #6861

"I give, Bequeath, and Devise unto my two sons Benjamin Coope and Ezra Coope, to them their Heirs and Assigns, forever, the several Plantations, Tracts, or Pieces of and, herein after named (except that in the state of Ohio), with all the Privileges and Appurtenances, thereto belonging or in anywise appertaining.

First the plantation or tract of land, whereon I now dwell, left to me by the Will of my father John Coope, containing, as therein expresses One hundred Acres be the same more or less.

Second A Piece of Land adjoining thereto in the South end thereof, which I bought of Joseph Coope, containing as by Deed, Twenty two Acres and 60 perches (those I consider as one tract)...

The first two I noted that I considered as one Tract, that is they lay adjoining each other, which I divide in the following manner that is a straight line being made. Beginning in the line between Joseph Parke and myself, one perch on the southside of the largest run and extending between the North and East, into the line between Samuel Coope and me, two perches North from the North end of a rock near the line in said Samuel Coopes meadow. All the land on the North side of said line, together with the Building, Rights, Liberties, privileges, improvements and Appurtenances thereto belonging or in anyway appertaining, I give and devise unto my son Benjamin Coope his Heirs, Assign forever. And all on the south side of the above described line which is to include the piece I bought of Joseph Coope, I give and Devise unto my son Ezra Coope, his Heirs, Assigns, together with...

And my will is that a private Road or Gateway be kept open between the buildings of my two sons, Benjamin and Ezra, for their and Family's use..."

1845

Benjamin Coope (deceased) To Caleb Coope Died in testate: Estate #10886 Orphan's Court Award

No records were found regarding this transfer of the property.

August 29, 1895

Caleb Coope To Elizabeth Downing Court of Common Pleas, County of Chester Deed Book No. 12, p. 106

In the Court of Common Pleas, Chester County, Pennsylvania, Alexander H. Ingram granted on behalf of Caleb Cope, a messuage, plantation, and two tracts of land to Elizabeth C. Downing for the fee of eight thousand dollars. The first of these two tracts being a messuage and plantation in the township of East Bradford, PA, bounded by lands of Gerard Cope, Jacob Howell, other lands of Caleb Cope, Joshua Hoopes, Watson J. Amber, and others. This lot contained ninety acres, being the same premises that Caleb Cope received from his father Benjamin Cope, who died intestate in 1845.

In addition to the previously mentioned parcel, there was an additional parcel containing sixty-one acres, one hundred perches of land. This was bounded by the land sold by Caleb Cope to Thomas Scattergood and was the same lot that Anthony Taylor and his wife granted and conveyed to Caleb Cope in fee on April 1, 1859 (Deed Book NC, Vol. 135, p. 15).

October 16, 1902

Edward Downing et ux (Elizabeth)
To
William White

Deed Book E12, p. 242

For the sum of ten thousand three hundred and twenty one dollars and sixty eight cents, Edward Downing granted and conveyed to William White the building and improvements on the above tract of land in East Bradford, Pennsylvania. This lot or piece of ground contained one hundred and forty two acres and seven hundred and two one-thousandths of an acre. Bounding this lot was the land bounded by that of Edward Hoopes, Benjamin Few, Hugh Abernathy, Copeland School, William Ryan, Benjamin Place, Eliza Harwell, and Thomas Scattergood. This parcel contained the same two tracts of land granted to Elizabeth C. Downing by the Court of Common Pleas on August 29, 1895.

March 9, 1907

William White

Deed Book M19, p. 21

To

Margaret White

"All the rest, residue and remainder of my estate, real, personal and mixed, I devise and bequeath to my beloved wife Margaret White to have, use, and enjoy the same during the term of her natural life." This included the property previously described.

September 15, 1933

Margaret White

Deed Book M19, p. 21

 $T_{\Omega}$ 

Norristown Penn Trust Company

As stated in the will of William White: "After the death of my wife Margaret White I order and direct that my farm in Chester County be sold at Public or private sale." The agency responsible for this sale was the Norristown Penn Trust Company.

April 29, 1936

Norristown-Penn Trust Company

Deed Book M19, p. 21

To

Thomas J. White

"THIS INDENTURE made the twenty ninth day of April in the year of our Lord one thousand nine hundred and thirty six, between the Norristown-Penn Trust Company, Administrator de bonis non cum testamento annexo of William White, late of Lower Merion Township, Montgomery County, State of Pennsylvania, deceased, party of the first part, and Thomas J. White, of East Bradford Township, Chester County, State aforesaid, party of the second part.

WHEREAS the said William White died on or about March 9, 1907, seized in fee simple of, among, other lands, the messuage and tract of land hereinafter described, situate in said Township of East Bradford, Containing one hundred forty two and 702/1000 acres, more of less, having first made his last will and testament, dated January 9, 1907, which was duly proven in the office of the Register of Wills of Montgomery County on March 18, 1907, wherein the testator, among other things, provided as follows: "Item. All the rest, residue and remainder of my estate, real, personal and mixed, I devise and bequeath to my beloved wife Margaret White to have, use, and enjoy the same during the term of her natural life. Item. After the death of my wife Margaret White I order and direct that my farm in Chester County be sold at Public or private sale." AND WHEREAS, the said testator appointed his wife, Margaret White, executrix of his said will, and no other person, and letters testamentary thereon were granted to her; AND

WHEREAS, the said Margaret White died September 15, 1933; AND WHEREAS, on petition presented, setting forth the fact of the death of Margaret White, the said Register of Wills granted the said Norristown-Penn Trust Company letters of administration d.b.n.c.t.a., upon the estate of the said William White, deceased; AND WHEREAS, the said Norristown-Penn Trust Company on October 28, 1935, presented to the Orphans Court of said County of Montgomery its petition for leave to sell as provided by Section 28 (c) of the Fiduciaries Act of 1917, the Court, on said date, offered a decree authorizing the petitioner to sell at public sale the said Messuage and tract of land, and pursuant to said decree a public sale of said real estate was held on January 21, 1936, on the premises; whereupon said premises, on said day of sale, were sold to the said Thomas J. White for \$11,250, he being the highest and best bidder"

The description of the land was as follows:

"ALL THAT CERTAIN messuage and tract of land, situate in East Bradford Township, Chester County, State of Pennsylvania, bounded and described as follows: BEGINNING at an oak tree, a corner of lands of Annie McCardle, Norman C. Frank and Giuseppe Giorgiani; thence along Giorgianis land and land of High Abernethy, decd., partly along a public road, north seventy seven degrees fifty members east twenty six hundred and twenty nine and eighty four one hundredths feet to a stone in said road, a corner of Copeland School lot; thence by said lot the next four courses and distances, according to

the same in prior deeds, viz: south twenty two degrees four minutes east one hundred forty eight and five tenths feet, south twenty four degrees forty eight minutes east ninety seven and twenty eight one hundredths feet to a stone; thence north seventy seven degrees forty one minutes east one hundred twenty four and five tenths feet to a point, north twelve degrees forty five minutes west two hundred thirty one and eighty eight one hundredths feet to a point in said road; thence partly along said road by said Abernethys land and land of William S. Sheller north eighty degrees twenty six minutes East twelve hundred nineteen and thirty five one hundredths feet to a stone, a corner of land of Joseph Crawford; thence by said land and land of the Borough of West Chester south twenty four degrees forty two minutes east twenty four hundred twenty two and seventy four one hundredths feet, crossing a public road to a stone in a line of land of Samuel E. Howell; thence by said land, crossing improved highway known as Route 5 and also the public road formerly called West Chester and Downingtown road, south sixty seven degrees twenty three minutes west thirteen hundred twenty two feet to a stone in a line of land of Florence V. Scattergood; thence along said land north twenty four degrees thirteen minutes west eighteen hundred sixty one and two tenths feet to a post, and south seventy degrees thirty three minutes west twenty six hundred five and eighty nine one hundredths feet to a stake in a line of land of Annie McCardle; thence by said McCardles land north twenty one degrees twenty minutes west twelve hundred four and eight tenths feet to the place of beginning.

CONTAINING one hundred forty two and 702/1000 acres, more or less. BEING the greater part of the same premises which Elizabeth C. Downing and Edward Downing, her husband, by deed dated Oct. 16, 1902, recorded in Deed Book E-12, Vol. 277, page 242, granted and conveyed to William White in fee."

1958

Thomas J. White Sr. Estate To Thomas White Jr., Catherine M. White, William M. White, John E. White Deed Book S-30, p. 47

"Distribution to each of the following: Thomas J. White Jr., Catherine M. White, William M. White, and John E. White an undivided ¼ interest in and to the following described real estate...All that certain tract of land situated in the township of East Bradford Township, County of Chester, Pennsylvania.

Tract 1: Beginning at a point in the center of West Chester Road, said point being a common corner of lands belonging to East Bradford Township School District, William Harvey, and now or late of Thomas Scattergood; thence along land now or late of Thomas Scattergood, South 70 degrees 33 minutes West, 1894.69 feet to a stake, a corner of land of Thomas Scattergood and in line of land now or late of James Ingram; thence along land now or late of James Ingram, North 21 degrees 20 minutes West, 707.32 feet to an iron pipe in line of land belonging to Gerard F. Robinson, thence South 85 degrees 19 minutes East, 180.05 feet to an iron pipe...thence along land belonging to Alfred H. Cummens, the next 2 courses and distances 1) South 85 degrees 35 minutes East, 100 feet to an iron pipe. Thence 2) North 17 degrees 50 minutes West, 400 feet to a nail in the center of West Chester Rd. ...in line of land belonging to East Bradford Township School District...thence along a curve towards right the next three following courses and distances...to a nail and a corner of land belonging to Albert S. DiSaiolantonio, thence...continuing along the center of West Chester Road South 72 degrees 1 minute East, 502.10 feet to first meeting place. Total acres: 25.834 acres.

Tract 2: Beginning at a concrete monument a corner of land belonging to the East Bradford Township School District and William White, said point being located from a point in the center of the West Chester Road, a common corner of lands belonging to East Bradford Township School District, William Harvey, and now or late of Thomas Scattergood and the Grantor, herein North 69 degrees 59 minutes, 711.20 feet. Thence along the loan belonging to the school district and in line of land belonging to the Copeland Schools; thence the same and then by John Morris, thence by Randall Yarnall, North 20 degrees, 12 minutes East, 437.25 feet to an iron pipe, a common corner of land belonging to Randall Yarnall, Elmer H. Haupt; thence along land belonging to Elmer Haupt, Cecil Hall, and Carlton Suplee, South 9 degrees 0 minutes, 616.30 feet to an iron pipe, and a corner of land belonging to Carlton Suplee, North 81 degrees – minutes East, 355.78 feet to a railroad spike in the center of a public Road (LR 15092). Said point being in line of land belonging to Catherine White; thence along the center of said road and in line with land belonging to Catherine White and then by land of John E. White, South 13 degrees 37 minutes, 77.13 feet to a railroad spike in the center of said road thence continuing along the center of said public road, by land of John E. White and thence by land belonging to Leroy Smith South 8 degrees 54 minutes East, 240.53 feet to a railroad

spike and a corner of land belonging to Leroy Smith and also a corner of land belonging to Thomas J. White Jr. and thence the following three distance:...1) along the center of

the aforementioned public road South 10 degrees 26 minutes East, 147.56 feet to a spike and thence....2) North 79 degrees 34 minutes East, 295 feet to an iron pipe and thence....3) North 10 degrees 26 minutes West, 147.50 feet to an iron pipe and a corner of land belonging to Leroy Smith. Thence along land belonging to Leroy Smith and then by land belonging to John E. White, then by Catherine White and then by William M. White North 10 degree 02 minutes West 629.19 feet to an iron pipe ...then along the land belonging to H.M. Knowles, North 16 degrees 34 minutes West 185 feet to an iron pipe...thence along land belonging to Dr. Morton North 49 degrees 46 minutes East, 295.90 feet...along land belonging to Harvey L. Rohrer...and the Borough of West Chester and passing over public road LR 15092 and then passing over the West Chester ByPass South 24 degrees 42 Minutes East 2, 210.74 feet to a stone monument...passing over West Chester Road (322), and land belonging to Thomas J. White JR. South 67 degrees 23 minutes West 1392.00 feet to a stone marker...thence along the land now or late of Thomas Scattergood and passing over the aforesaid West Chester Road, North 24 degrees 13 minutes West, 1861.20 feet to the beginning. Total area = 60.405 acres.

Tract 3: Beginning at a nail in the center of West Chester Road said point being in line of land remaining of the grantor, herein, and a corner of land belonging to the Fred Veit Estate; thence leaving the said road and along land remaining of the Grantor, herein: North 67 degrees 23 minutes East, 441.60 feet to a stone and at a corner of land remaining of the Grantor, herein, and in line of land belonging to the Borough of West Chester; thence along land belonging to the Borough South 24 degrees 42 minutes East, 64.64 feet to a stake...thence along land belonging to William Markely South 33 degrees 16 minutes 30 seconds West, 330.87 feet, to a nail in the center of West Chester Road thence along land belonging to the Fred Veit Estate, North 56 degrees 49 minutes 36 seconds West, 303.00 feet to the beginning. Total area = 1/478 acres.

All the above being part of the premises recorded in Deed Book M-17 v.459 page 21."

April 7, 1984

John E. White

Will Book 144, p. 23

To

Francis Adams White and John E. White, Jr.,

Co-executors

Property and lands given to the co-executors include the ¼ share of John E. White Sr. in the above described lands.

December 13, 1986

Thomas J. White

Estate #1987-0004

To

Mary O. White

By right of surveyorships, all rights to the above designated lands (1/4 of which belonged to Thomas J. White).

#### January 1996

Francis White Adams and John E. White Jr., Co-executors for John E. White, Mary O. White, executor For Thomas J. White, Catherine M. White, and William M. White To Daylesford Associates Inc. Deed Book 963, p. 229

In consideration of the sum of \$570,000.00, "Beginning at a point in the title of US Route 332 (West Chester By-Pass), thence through the title line of US Route 322 (West Chester By-Pass) the two following courses and distances: (1) on the arc of a circle curving left having a radius of 3819.63 feel the arc distance of 1052.61 feet to a point of the tangent (2) south 55 degrees 51 minutes 25 seconds West 150.56 feet to a point of intersection of the title line of the West Chester By-Pass and Downingtown West Chester Road, thence through title line of Downingtown West Chester Road and Copeland School Road, thence through the title line of Copeland School Road..."

"Part of the premises which Vincent J. Sheller and Helen Sheller by Deed 3/9/1977 Deed Book F-41 page 540 granted to Catherine M. White, Thomas J. White Jr., and William M. White and John E. White...

Part of the premises which the Orphans Court Award 9/13/1958 by estate of Thomas J. White, Deed Book S-30 page 47 to Thomas J. White Jr., Catherine M. White, William E. White, and John E. White, 2/4 undivided interest to each.

Part of the premises which Dorothy M. Rohrer, widow, Deed 6/15/1967 Book P-37 page 271 to Catherine M. White, Thomas J. White, William M. White, and John E. White.

Part of the premises which Francis White Adams and John E. White Jr., co-executors of the estate of John E. White, deceased et. Al. By Deed dated 6/29/1984, recorded in Deed Book N-64 page 202 granted and conveyed unto Thomas J. White Jr. and Mary O. White, his wife..."

#### January 1996

Francis White Adams and John E. White Jr., Co-executors for John E. White, Mary O. White, executor For Thomas J. White, Catherine M. White, and William M. White

Daylesford Associates Inc.

Deed Book 3861, p. 2201

For \$22,500.00, the following remaining portions of land from the original William White estate were also sold to Daylesford Associates, Inc. This includes:

- 1. From the Orphans Court Award. Deed Book S-30, page 37
- 2. From Dorothy M. Rohrer. Deed Book P-27, page 271

April 12, 1996

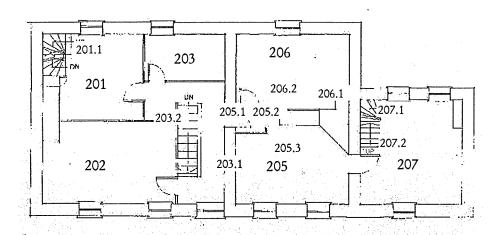
 $Day les ford\ Associates\ Inc.$ 

Tax ID # 51-5-24

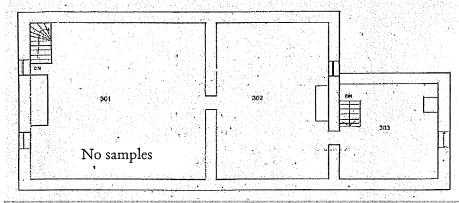
To

Paoli Shopping Center

For the sum of \$648,925.00, all the land previously described was purchased.

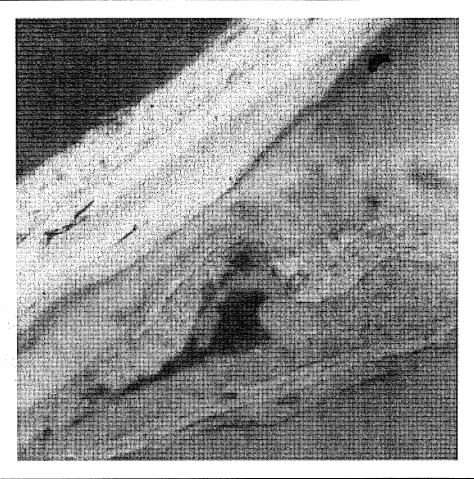


#### Second Floor



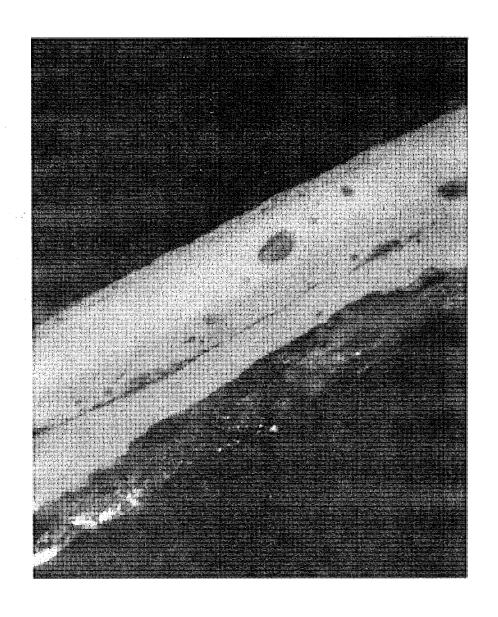
Third Floor

Sample No. 001.1		
Location: partition wall by stairs		
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected Light Source: Quartz halogen		
Film: Kodak Royal Gold 100		



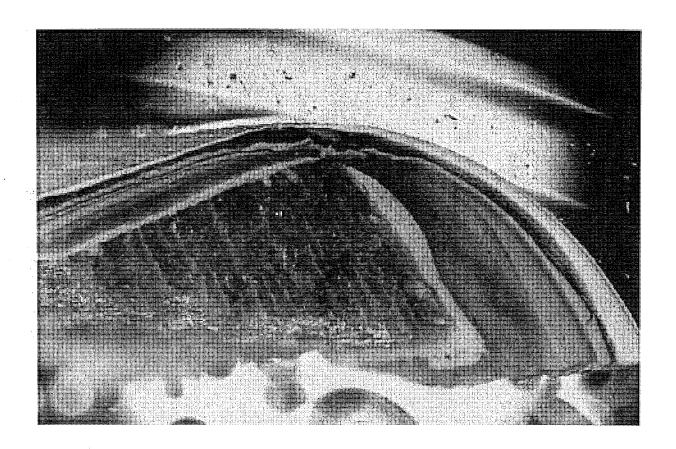
Layers	Observations	Thickness (µm)
1	white with clear particles	9
2	white with a couple of blue and orange particles	8
3	creme	3
4	yellowish creme	5
5	creme	7
6	uneven gray	4
7	very uneven bright yellow	5-12
8&9	very uneven pale green	2-10, 2-10
10	white	3
11	spongy uneven creme with light brown particles	8
12	spongy uneven slightly darker creme with light brown particles	15
13&14	two layers creme with golden brown particles -	4
15	golden brown particles	2
substrate	wood	

Sample No. 001.2		
Location: window sill closest to door		
Magnification: 100x Photo Magnification: 225x		
Light: Reflected Light Source: Quartz halogen		
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	very thin green	. 1
2 ·	thick white with golden brown particles	15
3	very pale green	7
4	very pale green	8
substrate	wood	

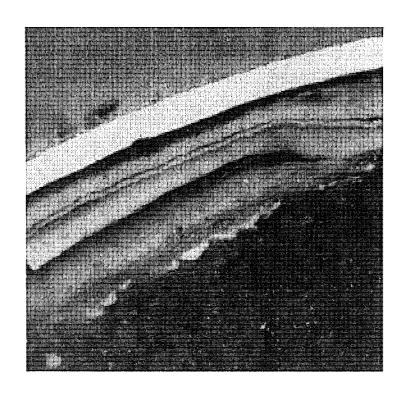
Sample No. 002.1		
Location: door frame E wall		
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	opaque white	2
2	thin, red-brown, resinous coating	3
3	uneven pale yellow	5
4	thin uneven, red-brown, resinous similar to 2	1
5	uneven pale yellow, similar to 3	3
6	thin light blue	3
7	even light gray, low pigment, refractive quartz-like aggregate	3
8	thicker darker gray, similar in material to 7,	10
9	white primer	5
substrate	wood	

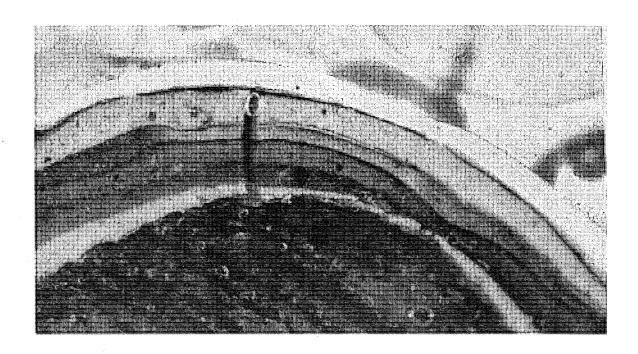
Appendix B: Paint Analysis \* 86

Sample No. 002.2		
Location: window sill S wall		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100	3	



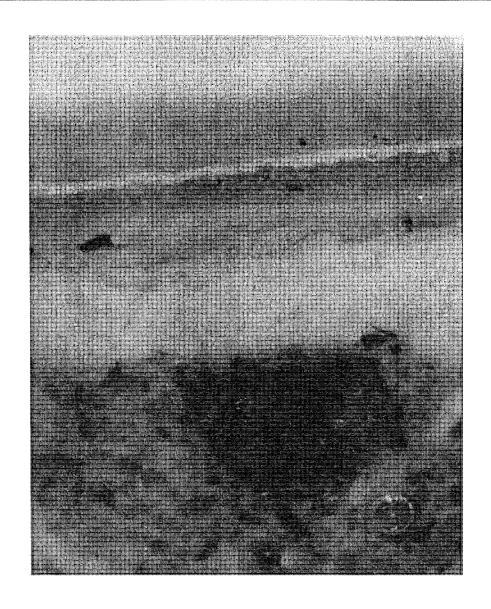
Layers	Observations	Thickness (µm)
1	thin, gray brown	1
2	thin, opaque white paint	10
3	thicker white primer filling cracks in lower layer	3
4	thin, red-brown, resinous coating	1
5	thick, uneven yellow	2
6	thin, undulating, resinous, red-brown	1
7	thin yellow	2
8	dark gray with refractive quartz-like aggregate	4
9	light blue, similar in material to 8	1
10	light brown, similar in material to 8 but with white aggregate	10
11	dark brown, similar to 4	3
12	thin, white-yellow, possibly second coat of primer	1
13	thin, white-yellow	2
substrate	wood	

Sample No. 002.3		
Location: window frame, S window		
Magnification:100x Photo Magnification:225x		
Light: Reflected Light Source: Quartz halogen		
Film: Kodak Royal Gold 100		



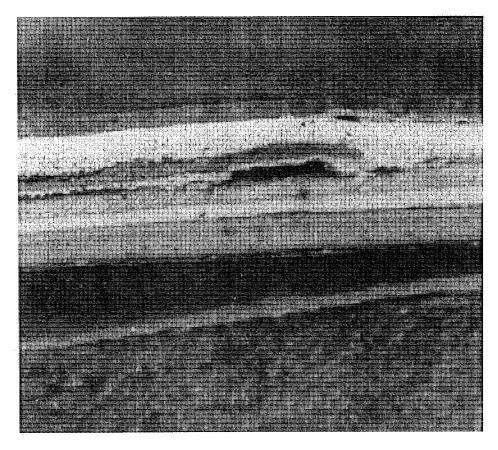
Layers	Observations	Thickness (µm)
1	similar white material with possibly 3 successive coats,1a white,1b gray-	5
	brown, 1c light blue	
2	thin, even, opaque white paint	1
3	thin, red-brown resinous coating	1
4	thin, uneven peach	5
5	similar to 3	
6	thin, undulating mustard	1
7	blue-gray, darker near the top with refractive aggregate	2.5
8	light gray-brown, darker near the top, similar in material to 9	4
9	darker brown, similar to 8	4
10	white primer	2
substratė	wood	

Sample No. 101.1		
Location: collected from floor		
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



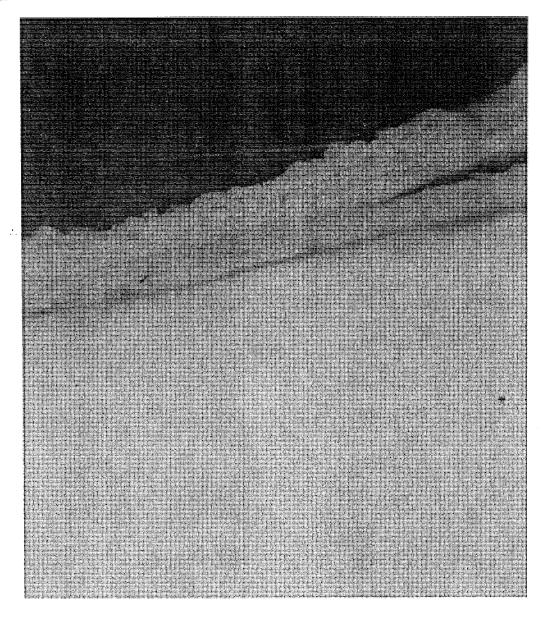
Layers	Observations	Thickness (µm)
1	very pale, chalky, bluish white	5
2	olive green, olive colored particles visible	16
3	opaque white	. 5
4	pale pink	4
-5	pale gray	7
substrate	finish plaster	55
substrate	scratch coat plaster	

Sample No. 102.1		
Location: window frame N w	rall	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



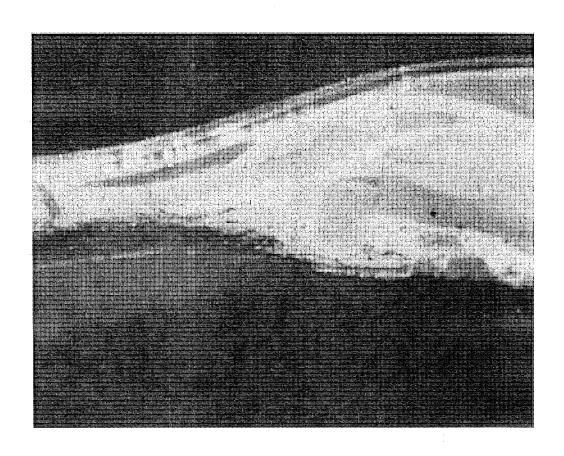
Layers	Observations	Thickness (µm)
1	opaque white, flecks of navy blue	9
2	chalky, pale creme, clear and orange particles visible	9
3	uneven mustard	3
4	chalky salmon color ,flecks of white and darker pink	8
5	white with flecks of black	4
6	chalky light creme with flecks of black and gold	11
7	thick opaque white, flecks of bright white and black	9
8	very thin, dark layer (dirt?)	
9	pale, thin gray	2
10	pale thin gray	2
11	powdery white with hint of green	15
12	thin silvery gray with flecks of white	3
	gap where substrate and paint layers separated	
substrate	wood	-

Sample No. 102.2		
Location :window area		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



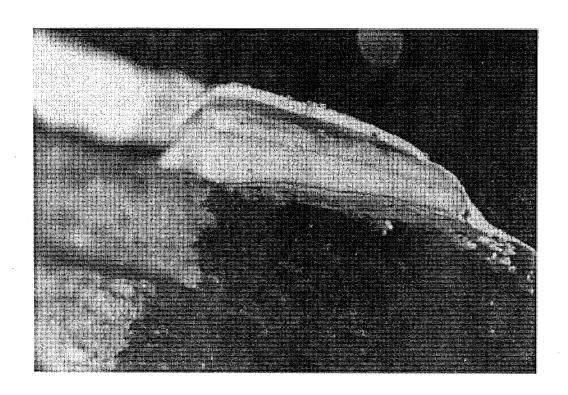
Layers	Observations	Thickness (µm)
1	thin, spongy white	2
2	spongy pare green	8
3	chalky pink	. 8 .
substrate	white finish plaster	

Sample No. 102.3		
Location: E wall partition		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



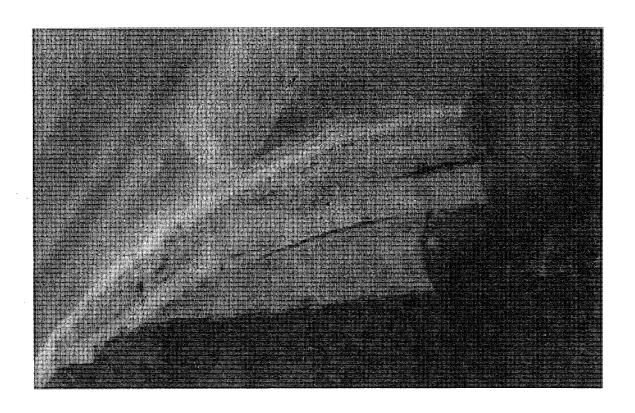
Layers	Observations	Thickness (µm)
1	spongy green	. 9
2	chunk of white	8
3	neon green surrounds white	.3
substrate	wood	

Sample No. 102.4	
Location: S door	
Magnification:50x	Photo Magnification:112.5x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



Layers	Observations	Thickness (µm)
1	white flaking paint	6
2	white	13
3	chalky, porous white	15
4	thin, even dark gray, chalky and porous	2
5	thick blue-gray, chalky and porous	4
6	thin, light blue	1
7	thin, dark gray	1
8	creme	3
9	graining primer	en.

Sample No. 102.5		
Location: S door		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	opaque white	4
2	spongy, pale green	4
3	thin, even white	3
4	thick pink with bits of red, orange and white pigment	5
5	thick white, large white inclusions	9
6	thick white	1
.7	pale, spongy blue	8
8	yellow-creme primer with dark particles	6 -
substrate	wood	

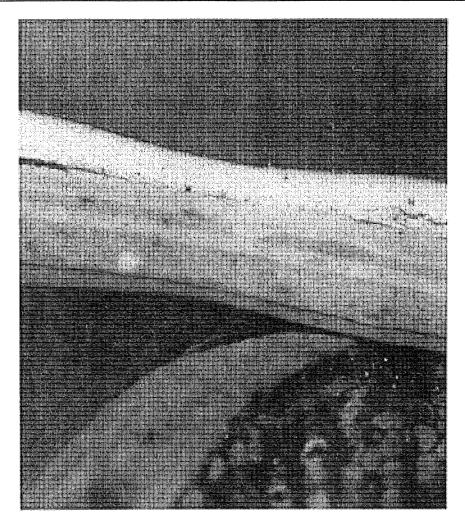
Appendix B: Paint Analysis \* 94

Sample No. 103.1		
Location: chair rail		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



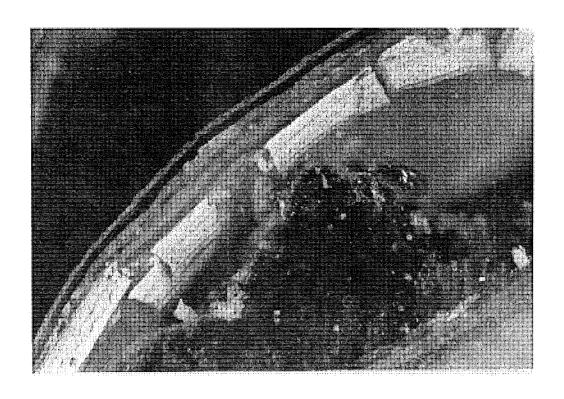
Layers	Observations	Thickness (µm)
1	white	3
2	pale gray	5
3	pale green	5
4	graining	. 5
substrate	wood	

Sample No. 103.2		
Location: N door, south side		
Magnification:100x	Photo Magnification:225x	
Light: Reflected Light Source: Quartz halogen		
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	opaque white	7
2	thin, porous white with orange particles	3
3	opaque creme	6
4	darker creme with a few visible particles	3
5	lighter, grayer creme with a few visible particles	4
6	thick, yellowish creme with dark particles	5
7	thick, yellowish creme, slightly darker with dark particles	5
8	black	
9	pale gray	3
substrate	wood (paint not adhered to)	-

Sample No. 103.3		
Location: N door - interior of:	room	
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



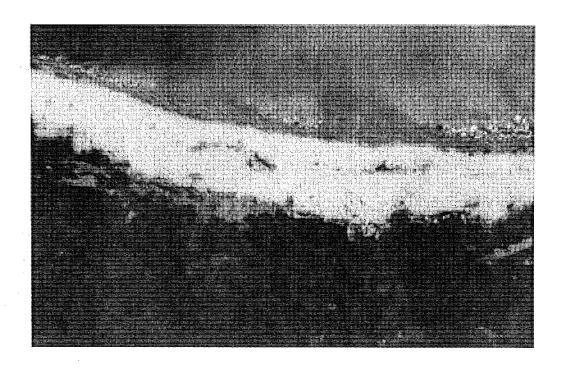
Layers	Observations	Thickness (µm)
	white	3
2	white with slightly gray particles	3
3	very pale peach	1
4	slightly darker peach	2
5	white with particles	4
6&7	creme with white and clear particles	4
8	very thin dark layer	
9	pale gray with orange and black particles	· 3
substrate	wood	

Sample No.103.4		
Location: E partition wall		
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	blue chalky	7
2	cracked white	9
3	graining or Layer of oil	10
substrate	wood	

Sample No. 103.5		
Location: SW window sill		
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



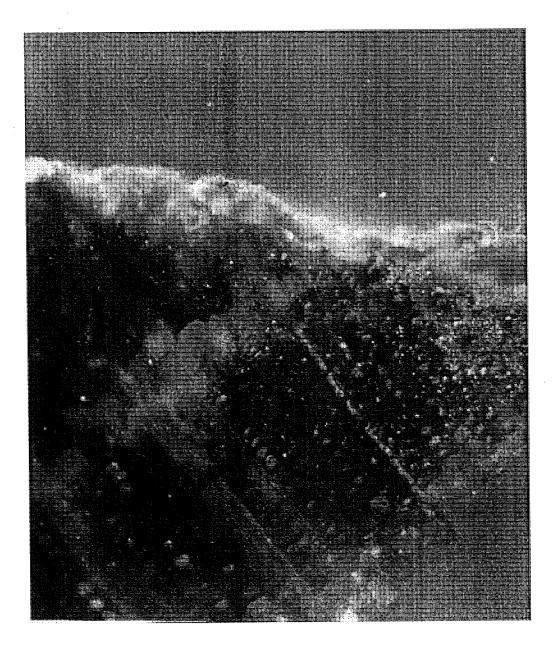
Layers	Observations	Thickness (µm)
1	white	7
2	white	15
substrate	wood	

Sample No. 103.7	-	
Location: window area of sou	ith wall	
Magnification:50x	Photo Magnification:112.5x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



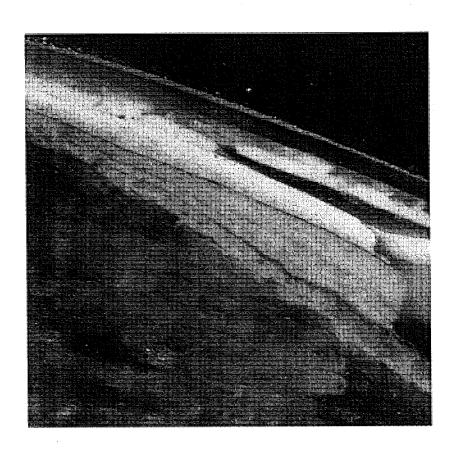
Layers	Observations	Thickness (µm)
1	bright blue	4
2	brighter blue	5
3	thin white	5
4	thin white	5
5	thick gray plaster	150
6	white finish plaster	

Sample No. 103.8		
Location: interior of cabinet		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



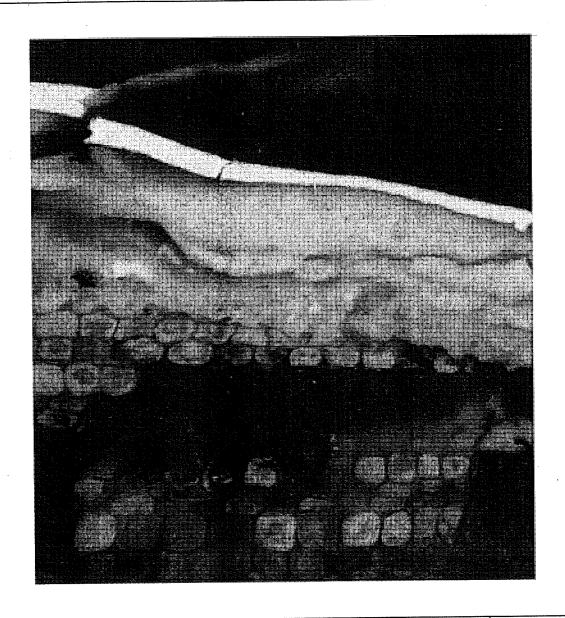
Layers	Observations	Thickness (µm)
1	slightly visible layer	5
substrate	wood	

Sample No. 104.1		-
Location: partition board of E wall	-	
Magnification:100x	Photo Magnification:225x	· _
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



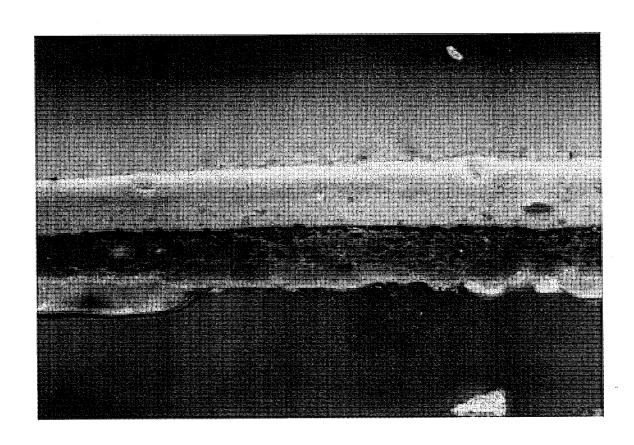
Layers	Observations	Thickness (µm)
1	white	4
2	white	3
3	white, visible particles	2
4	fluffy, very pale green, visible particles	3
5	thin line of brown, resinous	1
6	fluffy, very pale pink, visible particles	6
7	pale yellow, visible light brown particles	5
8	pale yellow, visible light brown particles	8
9	pale yellow, visible light brown particles	2
substrate	wood	

Sample No. 104.2	
Location: wainscoting above first floor stairs	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



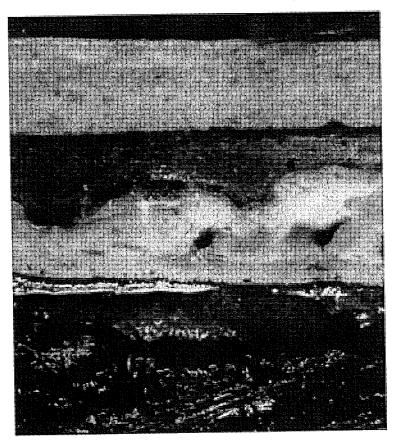
Layers	Observations	Thickness (µm)
1	black (barely visible in photograph)	5
2	opaque white	4
3	chalky pale pink, dark visible particles	14
4	pale golden creme, clear particles	5
5	uneven pale golden creme, clear, white, orange particles	10
substrate	wood	

Sample No. 106.1		
Location: N wall interior wa	l of cabinet	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	white	3
2	white	2
3	beige	6
4	white	2
5	red	1
6	green	8
substrate	missing	

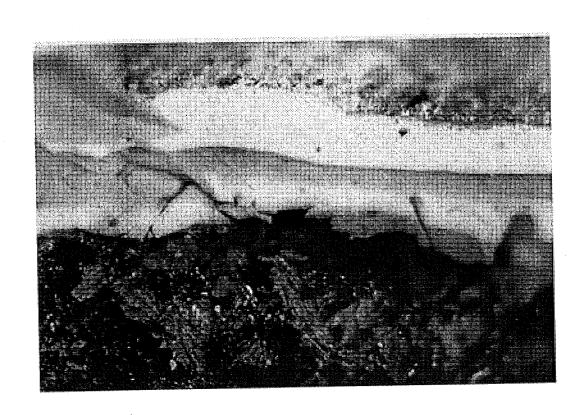
Sample No. 106.2	
Location: cabinet	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



Layers	Observations	Thickness (µm)
Layers 1	white	3.5
2	off-white	3
2		4
3	white	3
4	off-white	1.5
5	red	5
6	green	
7	white	3
8	off-white	3.5
9	red	1.5
10	green	5.5
11	white	10
12	off-white	3
13	red	1
14	green	7
substrate	wood	

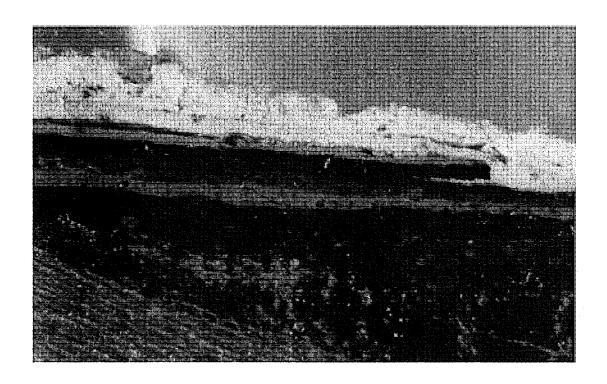
Appendix B: Paint Analysis \* 106

Sample No. 106.4		
Location: N wall, bottom rai	l of cabinet	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
Layers		6
1	off-white	4
2	off-white	
3	off-white	4
<u> </u>	off-white	3
5	off-white	3
		3
6	off-white	5
8	off-white	
substrate	wood	

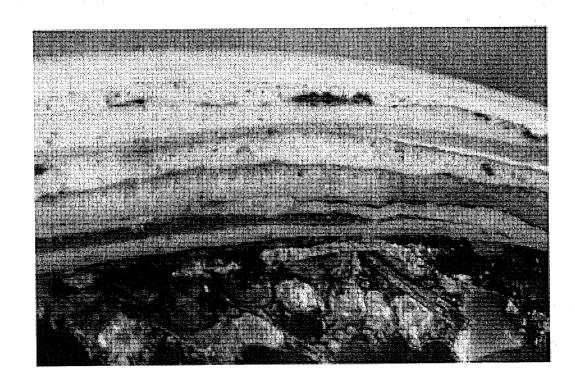
Sample No. 106.6		
Location: N wall, floor board		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	white	3.5
2	off-white	1.5
3	off-white	2
4	white	1
5	black	2
6	dark green	1
7	green	1
8	green-white and black pigment visible	2
9	greenish beige, dark pigment visible	2
10	black	2
11	gray-black and white inclusions	4
12	gray-black and white inclusions	5
substrate	wood	

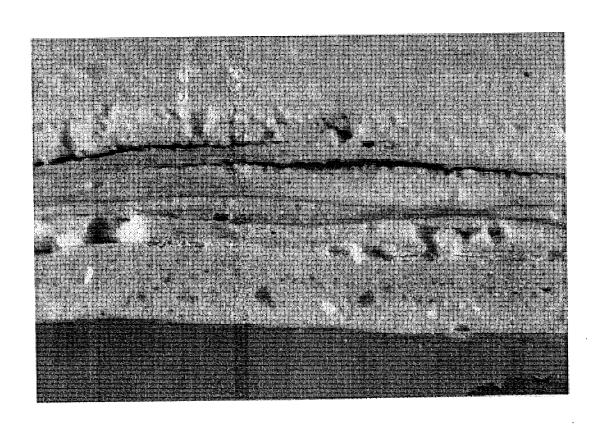
Appendix B: Paint Analysis \* 110

Sample No. 106.7	
Location: North door frame	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



Layers	Observations	Thickness (µm)
1	off-white	3
2	off-white	2
3	off-white pigments, very visible red inclusions	3
4	off-white	3
5	off-white	3
6	light beige	2
7	off-white	4
8	off-white	3
9	white	3.5
10	light yellow	2.5
11	translucent yellow	2
12	off-white	3
13	gray	1.5
14	white	2
substrate	wood	

Sample No. 106.8		
Location: N wall above chair	rail	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



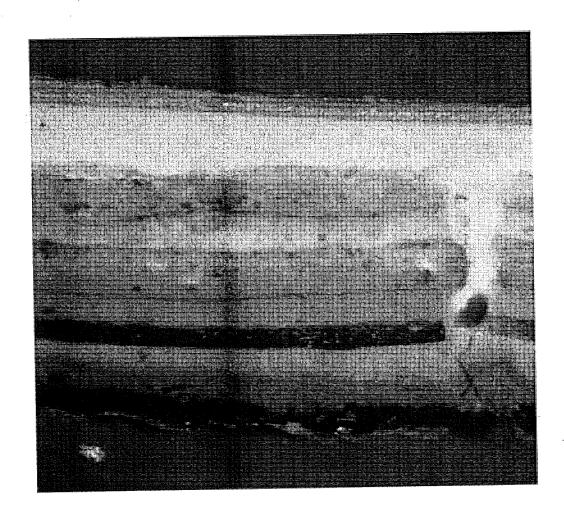
Layers	Observations	Thickness (µm)
1	white	4
2	beige	4
3	light yellow	1
4	yellow	3
5	beige	4
6	off-white	2
7	off-white	2
8	26 layers of "hard to distinguish" white, assumed to be whitewash: large pores, some dirt between the layers	18
9	white finish coat	
substrate	brown rough coat plaster	

Sample No. 106.9	
Location: Southeast window sill	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



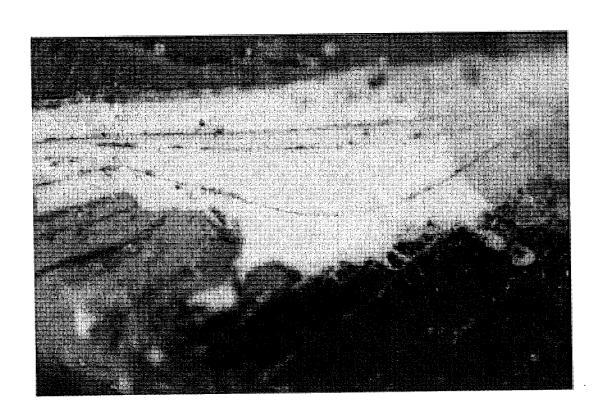
Layers	Observations	Thickness (µm)
Layers	white	8
2	off-white	3
2	off-white	3
1	off-white	2
5	off-white	1.5
	off-white	8
substrate	wood	

Sample No. 106.10	·
Location: southeast window frame	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



Layers	Observations	Thickness (μm)
	off-white	23.5
1-9		3.5
10	yellow	2.5
11	translucent yellow	2.3
12	off-white	
13	light green	1.5
14	beige	3
substrate	wood	

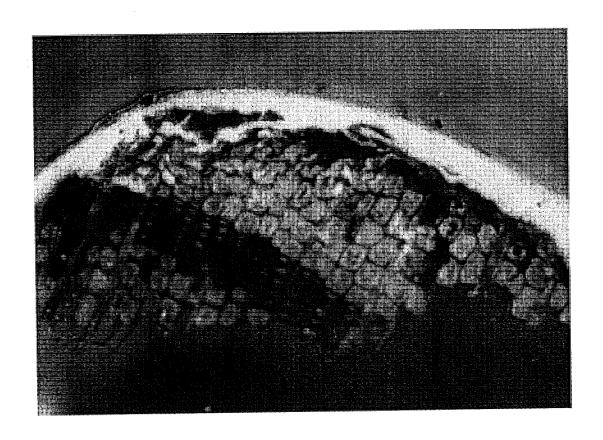
Sample No. 106.11		
Location: Southeast window sash	D    M   'C'	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (μm)
1	white, black pigments visible	5
2	off-white, dirt between layers1and 2	4
3	off-white, dirt between layers 3 and 4	3
4	off-white, dirt between layers 4 and 5	3
5	off-white	5
substrate	wood	

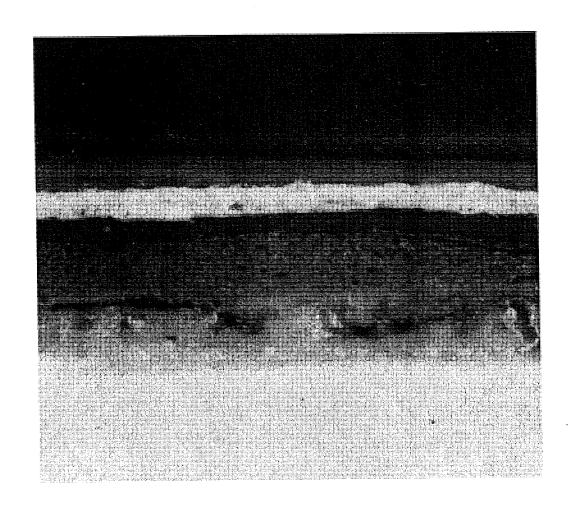
Appendix B: Paint Analysis \* 115

Sample No. 106.12		
Location: southeast window frame		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



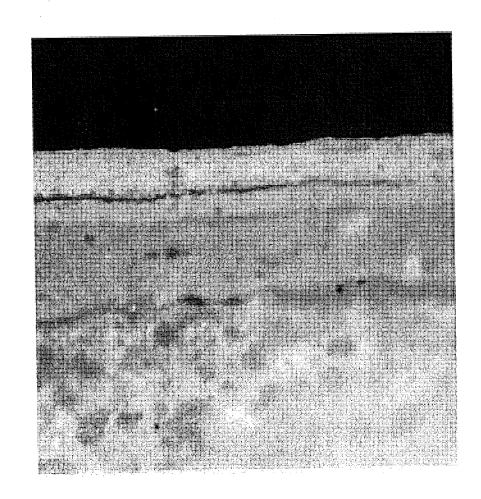
Layers	Observations	Thickness (µm)
1	light beige	1
$\frac{1}{2}$	white	4
3	white	1
substrate	wood	

Sample No. 106.13	
Location: S wall below chair rail	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



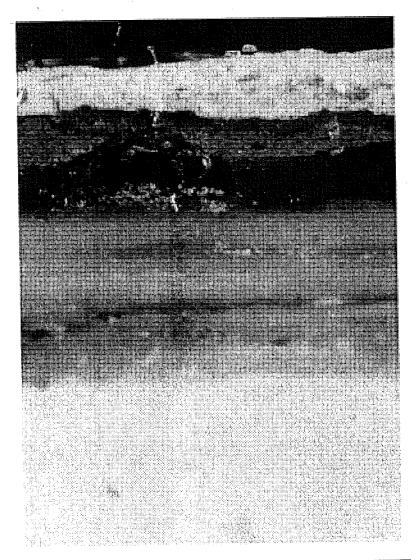
Layers	Observations	Thickness (µm)
1	white	4
1 2	red	3
3	green	10
4	14 layers of off-white, difficult to distinguish between the layers	11
substrate	scratch coat plaster	
substrate	rough coat plaster	

Sample No. 106.14		
Location: S wall between wir	ndows	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



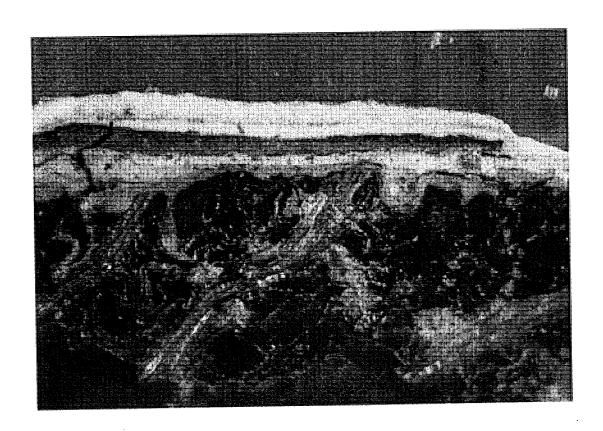
Layers	Observations	Thickness (μm)
1	white	8
	vellow	3
3	beige	15
substrate		

Sample No. 106.15	
Location: W wall above baseboard	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



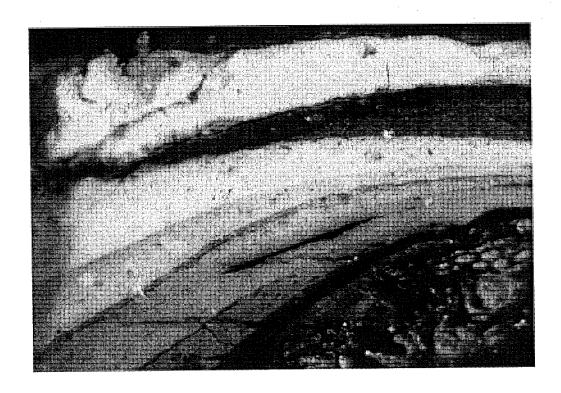
Layers	Observations	Thickness (µm)
1 1	white	6
2	off-white	3
2	very thin white	1
3	red	2
<del></del>		3
5	a series of white layers, difficult to distinguish	25
. 6		
substrate		
substrate	rough coat plaster	

Sample No. 106.16	·
Location: West door, lowest rail	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



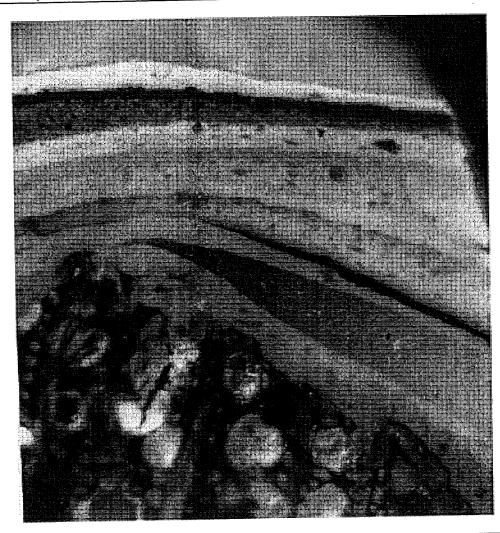
Layers	Observations	Thickness (µm)
Layers 1	white	4
1	white	2
		1
3	red	3
4	green off-white	2
5		2
6	off-white	
substrate	wood	

Sample No.106.17		
Location: West door, third ra	l from the bottom	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
1	white	3
2	very thin red	3 ·
3	white	2
4	red	2
5	green	5
6-10	off-white	12
11-12	white	5
13	black	1
14	light yellow	4
15	translucent yellow	1
16	light tan	1
17	light green	3
18	light tan	3
19	gray	2
substrate	wood	

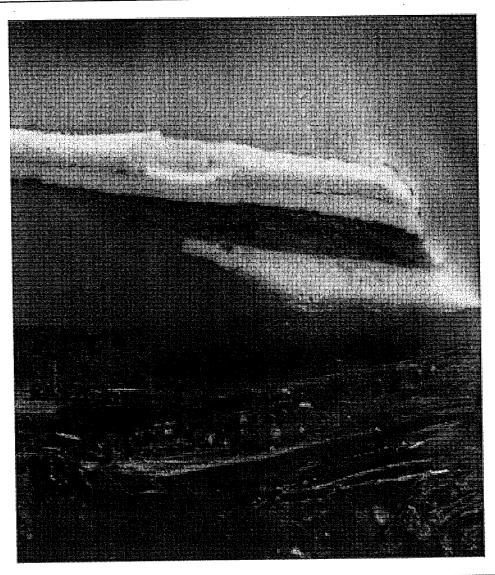
Sample No.106.18		
Location: West door stile bety	veen rails	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



Layers	Observations	Thickness (µm)
Layers	white	3
1		1
2	red	3
3	green	4
4-5	off-white	2
6	light tan	
7	light yellow	2
8-9	off-white	4
10	yellow	3
11	light yellow	2
	light green	3
12		
substrate	wood	

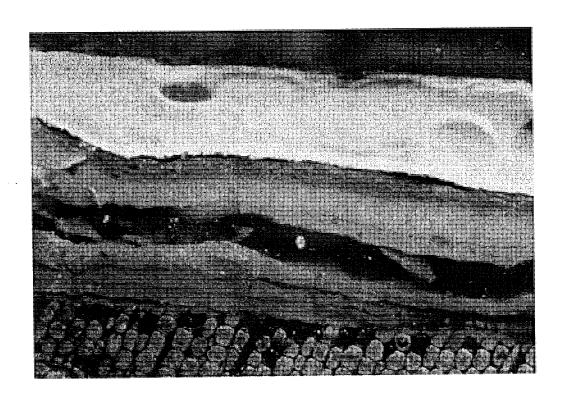
Appendix B: Paint Analysis \* 122

Sample No.106.19			
Location: west door, middle panel			
Magnification:100x	Photo Magnification:225x	-	
Light: Reflected	Light Source: Quartz halogen		
Film: Kodak Royal Gold 100			



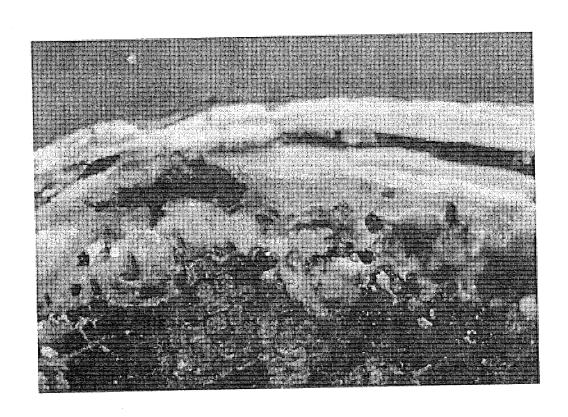
Layers	Observations	Thickness (µm)
1	white	4
2	off-white	3
3	red	1
4	green	5
5	off-white	3
6	off-white	3
7	of-white	2
substrate		

C 1 Nr. 107.1	
Sample No.107.1	
Location: Window on East wall	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



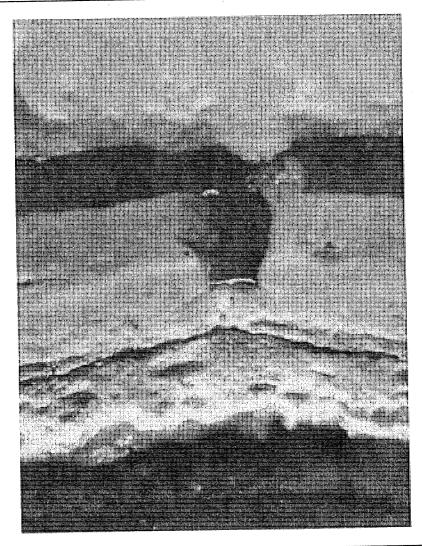
Layers	Observations	Thickness (µm)
1	white	13
2	off-white	2
3	beige	2
4	gray	1
5	off-white	3
6	off-white	2
7	off-white	2
8	off-white	2
9	off-white	3
10	off-white	2
11	off-white	2
substrate	wood	

Sample No.108.1		
Location: window mutton on ea	st wall	
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



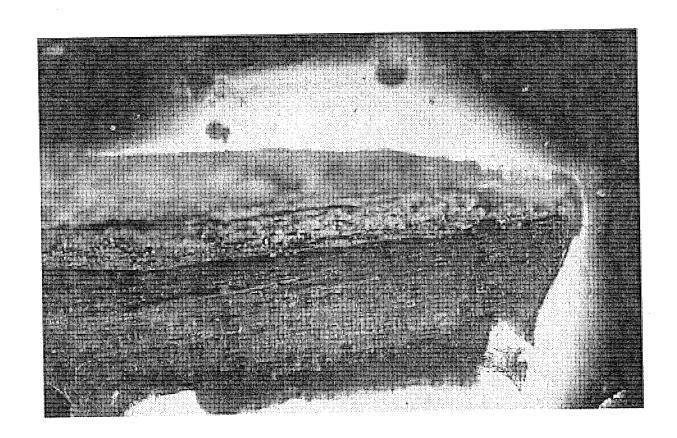
Layers	Observations	Thickness (µm)
Layers		1
1	white	1
2	white	1
3	off-white	4
4	off-white	2
5	off-white	2
<u> </u>		5
6	resinous white	
substrate	wood	

Sample No. 108.2	
Location: West wall	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



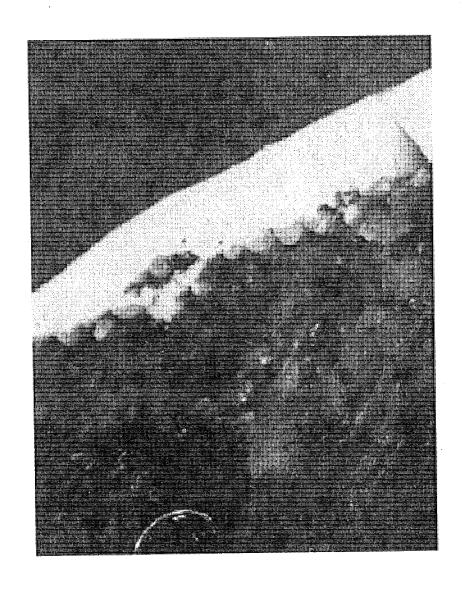
Layers	Observations	Thickness (µm)
Layers		10
1	green	10
2	beige	2
3	pink	1
4	off-white	1
5	yellow	3
6	off-white	5
7	green	10
8	white	3
9	finish plaster	
substrate	rough coat plaster	

Sample No.201.1	·
Location: NW window sill	
Magnification:50x	Photo Magnification:112.5x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



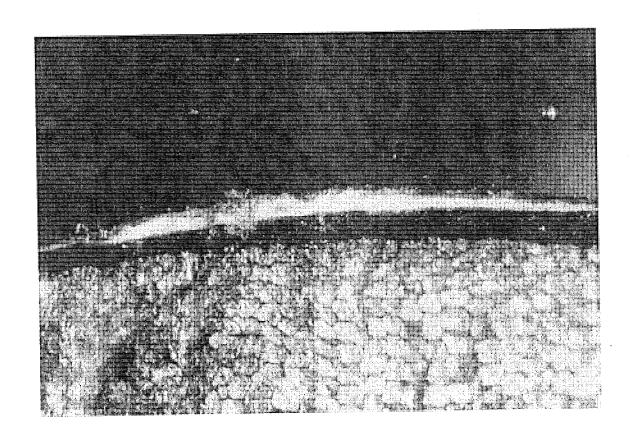
Layers	Observations	Thickness (µm)
1	thick, white layer with medium sized, brown colored aggregate	30
substrate	wood	

Sample No. 203.1	
Location: Second baluster from end	
Magnification:50x	Photo Magnification:112.5x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



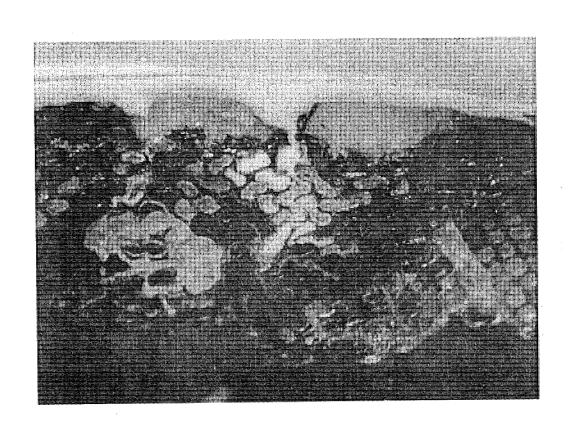
Lavers	Observations	Thickness (µm)
1	thick opaque white	40
substrate	wood	

Sample No.203.2	
Location: top of banister	-
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



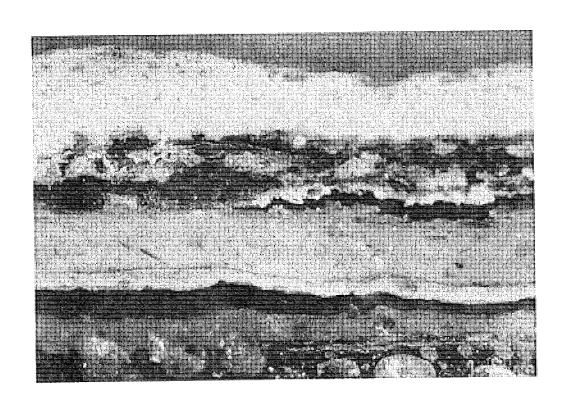
Layers	Observations	Thickness (µm)
1	wax coating	6
2	black	7
- Laubetrata	1	
substrate	wood	

Sample No. 205.1		
Location:		
Magnification:100x	Photo Magnification:225x	
Light: Reflected	Light Source: Quartz halogen	
Film: Kodak Royal Gold 100		



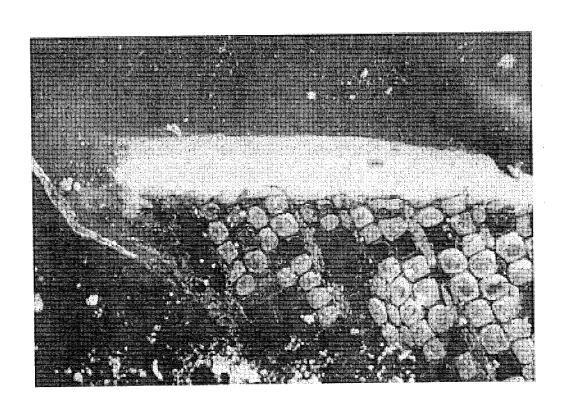
Lavers	Observations	Thickness (µm)
1	non continuous off-white	1
2	white	11
3	wood	3

C 1 NI- 205 2	
Sample No.205.2	
Location: partition wall	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



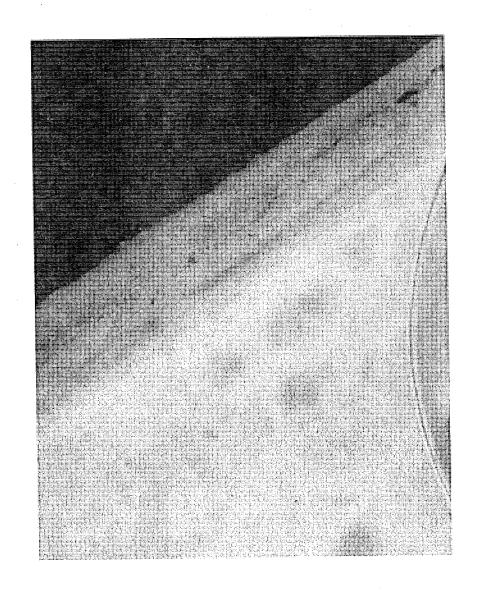
Layers	Observations	Thickness (μm)
1	beige	3
2	yellow with white aggregate	8
3	dark resinous with white aggregate	13
4	light resinous	1
5	beige	8
6	yellow	2
7	orange resinous	4
substrate	wood	

Sample No. 205.3	
Location: south partition wall	
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	·



Layers	Observations	Thickness (µm)
1	light tan	3
2	white	4
3	off-white	2
substrate	wood	

Sample No.206.1	
Location: ceiling plaster from cent	er of room
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



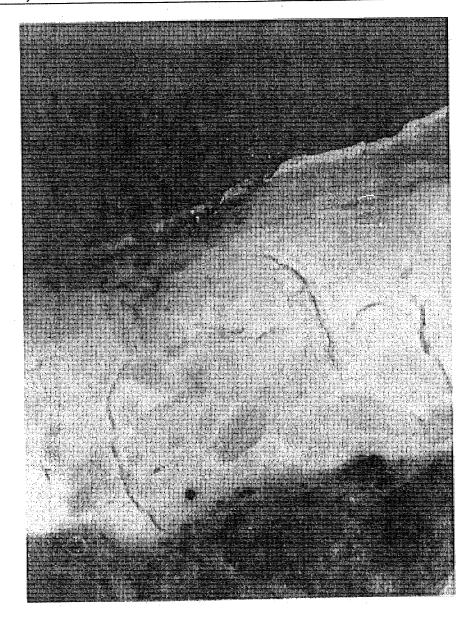
Layers	Observations	Thickness (μm)
1	very pale blue	5
2	pale gray	3
-3	white	5
substrate	finish plaster	

Sample No. 206.2	
Location: ceiling area near partition	1
Magnification:100x	Photo Magnification:225x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



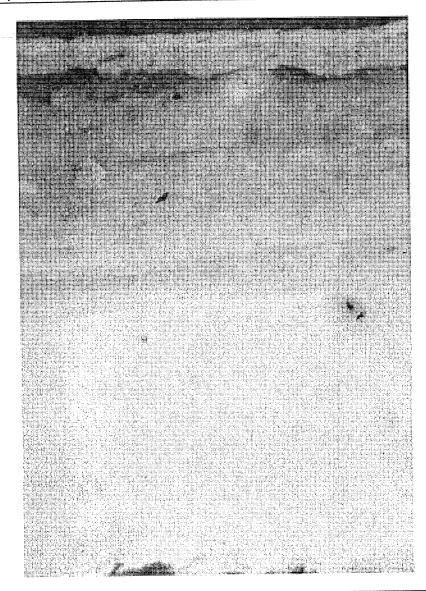
Layers	Observations	Thickness (µm)
1	white	5
2	blue	3
3	blue-gray	9
<u> </u>	white	5
5	gray	4
substrate	finish plaster	

Sample No.207.1	
Location: east wall near stairway	
Magnification:50x	Photo Magnification:112.5x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	

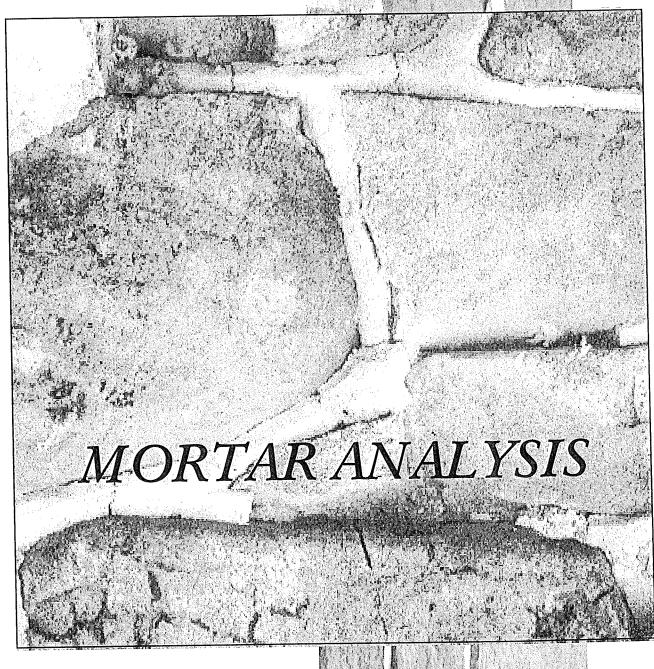


Layers	Observations	Thickness (µm)
1	thin white layer with dirt	3
2	vellow	3
3	white finish plaster	150
substrate	scratch coat	

Sample No.207.2	
Location: West wall	
Magnification:10x	Photo Magnification:112.5x
Light: Reflected	Light Source: Quartz halogen
Film: Kodak Royal Gold 100	



Layers	Observations	Thickness (µm)
1	light yellow	2
2	vellow	4
3	resinous brown	2
4	white	8
5	approx. 10 layers of white wash	22
6	finish plaster	37
7	rough coat	

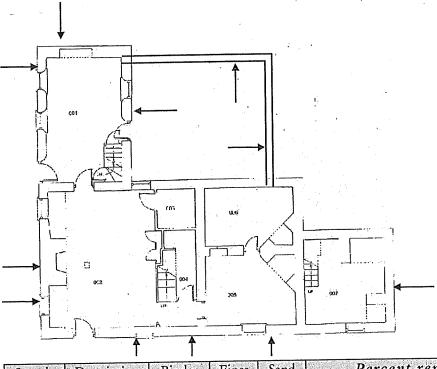


Appendix C



#### Exterior Mortar Analysis

#### KEY: Exterior Mortar Samples



Sample	Description	Binder	Fines	Sand	Percent remaining on Sieve Screen*						
0F		(%)	(%)	(%)	8.	16	30	50	100	200	Tray
Ext 1	pointing	59.8	5.1	35.2	0.0	17.6	29.9	29.6	10.5	7.7	4.6
Ext 2	bedding	20.2	4.1	75.7	0.0	2.1	5.8	11.2	63.5	15.4	2.1
Ext 3	pointing	50.7	1.8	47.5	0.7	9.5	31.2	34.9	12.5	6.3	4.8
Ext 4	pointing	33.7	9.9	56.4	0.0	8.0	24.6	32.2	15.5	11.2	8.4
Ext 5	pointing	46.2	3.3	50.5	0,0	10.8	24.4	24.9	19.9	10.3	9.8
Ext 6	bedding	29.1	1.0	69.9	0.0	1.2	2.6	5.5	39.4	38.0	13.3
Ext 7	stucco	22.6	1.8	75.3	4.7	20.6	16.3	27.2	18.3	7.7	5.2
Ext 8	stucco	86.9	5.1	8.0	0.0	0.0	6.5	17.7	17.7	17.7	40.3
Ext 9	stucco	49.0	13.6	37.4	0.7	7.5	10.9	10.2	4.8	2.7	0.7
Ext10	stucco	31.2	16.5	52.3	3.4	24.2	31.9	26.0	8.7	3.2	1.8
Ext 11	pointing	49.7	2.1	48.2	6.1	35.4	24.61	18.7	6.8	5.7	2.8
Ext 12	bedding	34.5	4.9	60.6	3.1	3.4	6.4	11.9	17.2	39.5	18.5
Ext 13	bedding	29.3	2.3	68.4	6.6	9.0	6.7	14.0	23.5	26.1	14.0
Ext 14	pointing	34.6	3.2	62.2	0.8	6.4	6.2	10.5	20.4	35.7	19.9
Ext 15	stucco	46.7	0.3	46.3	2.35	9.84	11.28	27.35	31.95	14.26	2.44
Ext 16	bedding	21.6	1.4	76.9	1.6	7.4	7.2	16.0	24.8	27,1	16.0
Ext 17	bedding	26.5	4.2	69.3	23.9	33.8	11.7	11.2	7.9	7.1	4.3
Ext 18	bedding	23.9	1.9	74.2	8.0	5.4	8.5	16.5	21.42	1.8	18.5
Ext 19	bedding	29.6	2.4	68.0	6.2	7.4	7.0	14.8	23.0	23.8	17.8

\*ASTM standard sieve sizes were used..

8 sieve - 2.36 mm openings

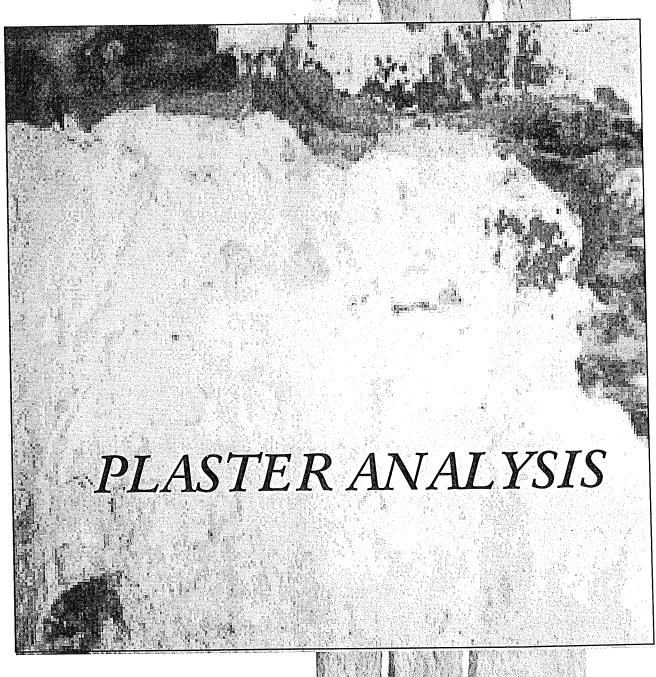
50 sieve - 300 μm openings

16 sieve - 1.18 mm openings

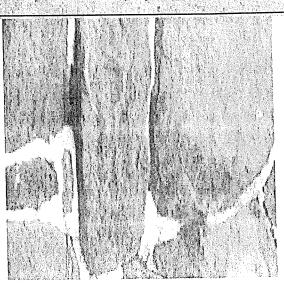
100 sieve - 150 μm openings

30 sieve - 600 μm openings

200 sieve - 75 μm openings

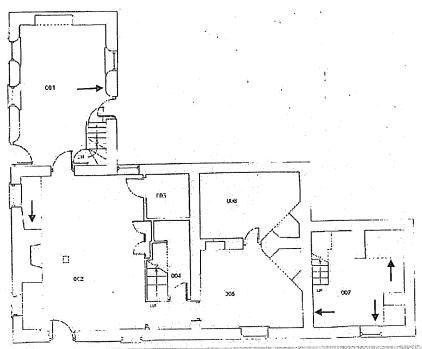


Appendix D

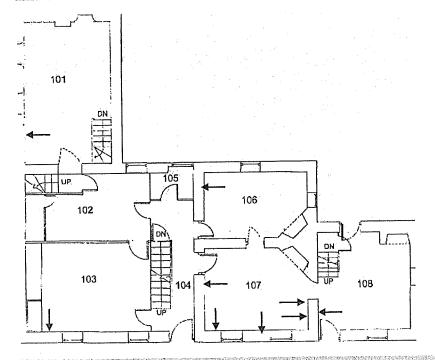


#### Plaster Analysis

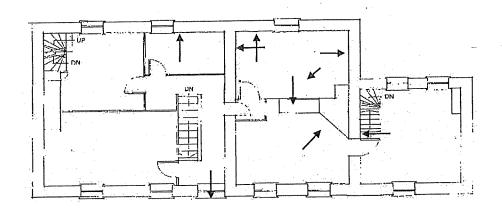
KEY: Plaster Samples



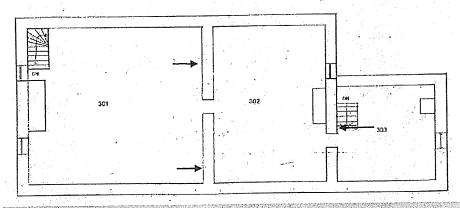
#### Basement Floor



First Floor



#### Second Floor



Attic Floor

Sample	Description	Binder	Fines	Sand		Percen	t rema	ining	on Sie	ve Scre	
		_ (%)	(%)	(%)	8	16	30	50	100	200	Tray
001.1	brown &finish	0.4	13.5	86.1	5.1	8.1	8.2	13.8	23.3	18.0	9.6
002.1	brown &finish	41.3	42.0	16.7	5.0	3.9	2.5	2.9	1.4	0.9	0.1
007.1	brown coat	35.4	7.2	527.4	3.7	3.5	1.2	2.4	10.2	28.5	50.4
007.2	pointing	60.0	5.0	35.0	2.6	17.7	28.4	31.0	9.5	6.0	4.7
007.3	bedding	38.5	10.7	50.8	2.4	2.3	2.9	7.7	58.6	23.6	2.5
007.4	bedding	35.9	12.8	51.3	0.0	4.5	4.5	8.3	14.1	19.9	48.7
007.5	brown coat	26.5	6.1	67.4	0.0	7.1	6.3	9.0	36.3	29.9	11.4
007.6	bedding	25.0	1.6	73.4	0.9	1.7	21.1	63.5	12.5	0.0	0.0
101.1	brown &finish	28.6	15.9	55.5	2.3	9.2	8.8	12.7	17.7	21.3	7.7
103.1	brown &finish	45.6	12.8	41.5	6.1	22.7	22.6	18.1	10.9	8.4	3.8
106.1	brown coat	30.2	3.8	66.0	0.0	1.4	4.9	34.1	46.7	21.1	0.9
106.2	brown coat	23.6	2.2	74.2	1.8	2.5	3.7	3.3	14.5	27.3	46.8
106.3	brown coat	29.0	2.1	68.9	0.7	0.9	3,8	5.3	28.4	41.4	19.5
106.4	pointing	25.9	2.0	72.1	1.4	0.2	50.5	41.6	6.1	0.2	0.0
106.5	finish	91.9	8,1	0.0	-	-	-	-	-	-	-
106.6	brown coat	24.8	0.2	73.2	0.0	2.2	1.5	2.8	41.6	45.6	6.3
107.1	finish	95.0	2.4	2.6	0.0	0.0	0.0	0.0	35.0	40.0	25.0
108.1	brown coat	32.6	6.1	61.3	0.0	13.4	25.6	23.1	10.1	9.7	18.1
202.1	brown &finish	31.4	19.9	48.7	5.7	19.9	17.8	21.3	12.6	8.6	2.2
204.1	brown &finish	37.5	18.5	44.0	8.1	21.5	20.5	21.1	15.3	10.0	21.8
205.1	brown coat	7.3	1.1	91.6	1.1	8.0	6.4	7.3	12.1	42.6	22.6
206.1	brown coat	23.3	1.9	74.8	0.3	0.8	0.5	2.6	11.4	35.4	49.1
206.2	brown coat	23.3	4.9	71.8	0.4	3.8	3.1	6.0	12.0	28.2	46.5
206.3	brown &finish	39.4	24.6	36.0	0.9	7.9	9.7	15.9	22.7	22.1	11.8
206.4	brown coat	30.4	6.6	63.0	0.0	1.4	3.4	8.2	28.6	34.7	23.8
206.5	brown &finish	60.6	17.3	22.1	2.9	6.1	9.3	18.1	30.2	19.8	9.6
207.1	brown &finish	22.4	25.3	52.3	2.3	11.4	15.9	11.8	4.2	2.9	1.1
301.1	brown &finish	21.0	11.3	67.6	8.0	15.9	16.9	21.7	14.4	12.7	7.6
301.2	brown coat	20.1	10.5	68.7	0.2	12.3	10.8	20.1	25.5	16.6	4.5
303.1	brown &finish	30.2	14.4	55.4	16.5	20.6	11.0	18.7	19.4	11.8	2.3

#### \*ASTM standard sieve sizes were used..

8 sieve - 2.36 mm openings

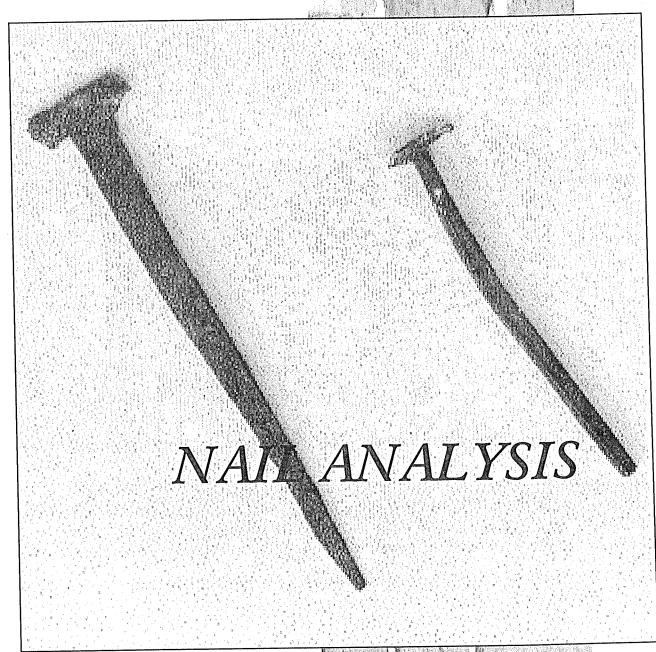
50 sieve - 300 μm openings

16 sieve - 1.18 mm openings

100 sieve - 150 μm openings

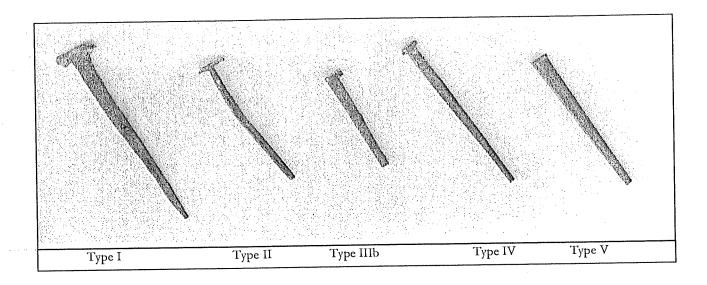
30 sieve - 600 μm openings

200 sieve - 75 μm openings



Appendix E





#### Nail Analysis

Nail analysis, in addition to aiding in building phase chronology, is also helpful in determining alterations within phases. At the Cope House, this is most evident in the west wing. The nails for the stair enclosure range from cut nails near the ground level, to wrought nails near the first floor, indicating that part of the stairs were closed off after the wing was built. In addition, on the ground floor of the west wing, nails taken near the fireplace of the west wall are modern cut nails, indicating extensive alteration of this area sometime after the 1830s.

In the east wing, the first floor was completely replaced, sometime after 1850, the first production date of wire nails. This is evident in the fact there are several wire nails in the area, and no early cut nails in the floor. This also applies to the partitions built for the bathrooms throughout the house.

- Type I nails are T-shaped and hand wrought.
- Type II nails are early machine cut nails with handmade heads.
- Type IIIb are completely machine cut brads.
- Type IV nails machine head cut nails.
- Type V nails are modern machine cut nails.

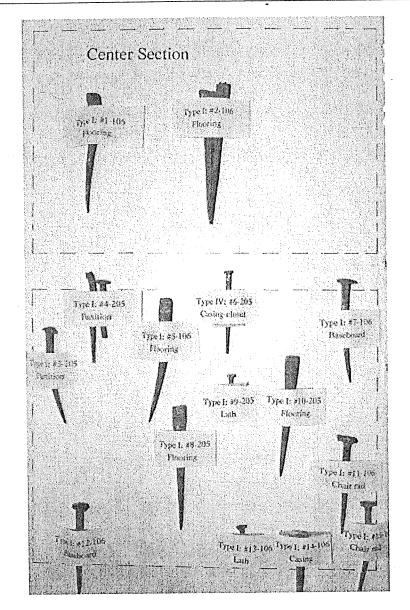
In the northwest wing, the use of modern cut nails on the floor indicates this floor may have been replaced. However, the window casing nails appear to be modern brads and therefore, may be contemporaneous with the floor. The installation of a new floor usually involves the removal of baseboards. Since the baseboard nails are early, machine cut nails, it is more

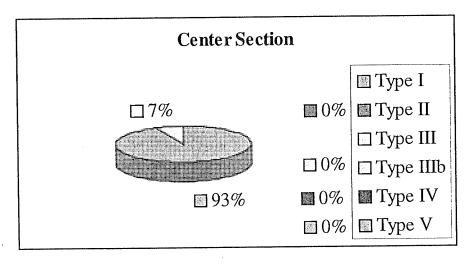
likely that the modern cut nails date the construction of the wing and that alterations did not occur. It is probable that the carpenters used the early machine cut nails for the thick baseboards because of their sheer strength properties. Of all the building phases, the center section appears to have experienced the fewest alterations.

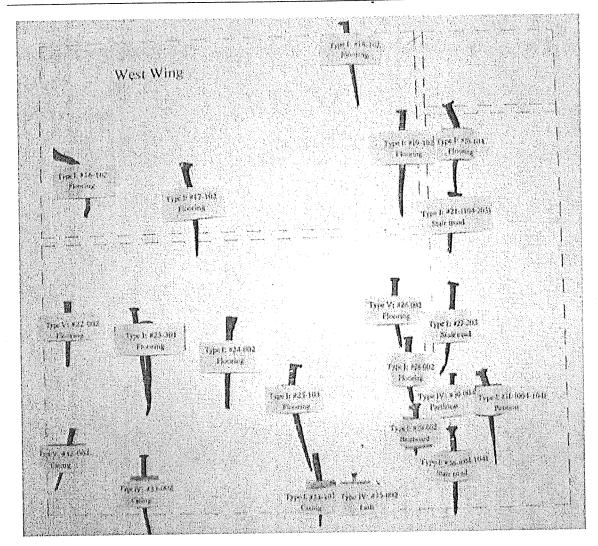
Attempts to analyze the cut nails of the Cope House were most difficult. It is particularly difficult to differentiate early between machine-cut nails with handmade heads and early machine-headed cut nails. A rose shaped head (in larger nails) characterizes the former, while the latter has a more square shaped head (nail heads easily deform in extraction so comparison can be difficult). This also applies to differentiating between early machine cut brads with handmade heads and the completely machine cut brads as well as separating early machine headed cut nails from modern machine cut nails. Fortunately,

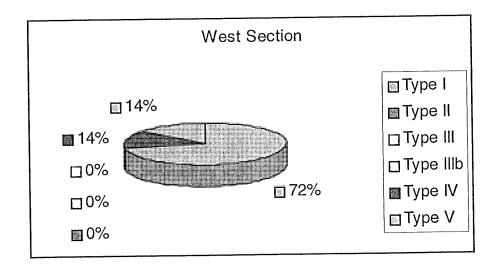
the greatest difficulty lies in distinguishing nails manufactured in the same period, and is not so difficult when trying to separate early cut nails from much later modern nails.

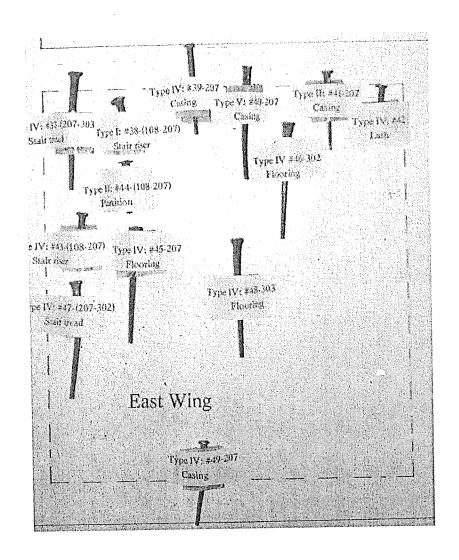
contain The following pages photographs of the nails according to building In addition to being labeled by function type, each contains a coding number: the Roman numeral identifies manufacturing type, the second number is the main reference number, and the third number is the room number from which it was collected. The first digit of the room number denotes the floor level. Hence "Type IV: #33-002, Casing" is an early machine headed casing cut nail taken from room 002 on the ground floor in the west wing. "Type I: #8-205, Flooring" is a wrought flooring nail taken from room 205 on the second floor of the center section. Nails with two room numbers are taken from stairs between floors.

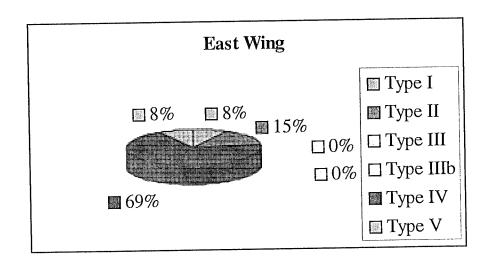


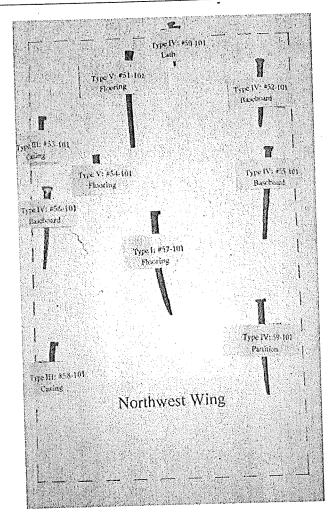


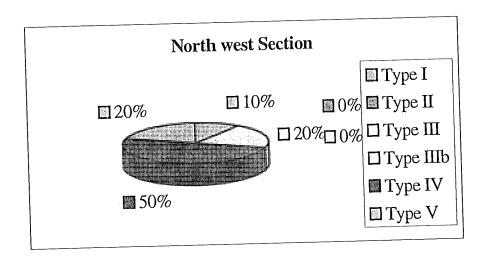


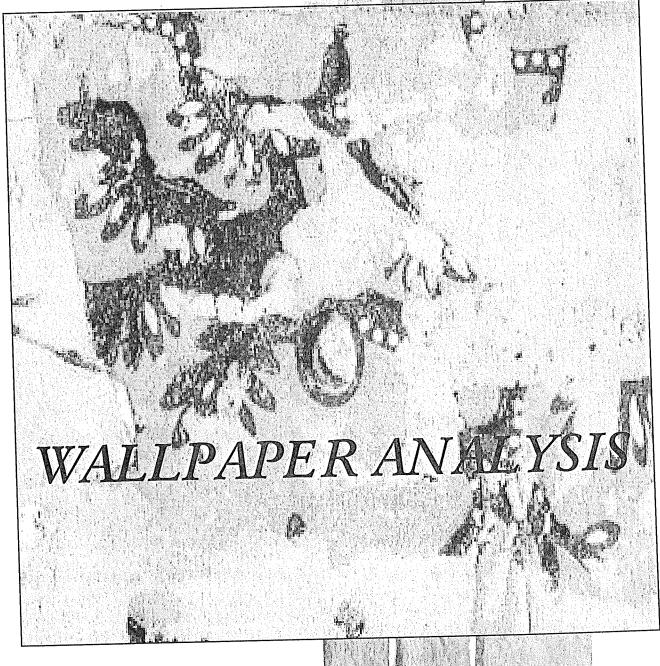








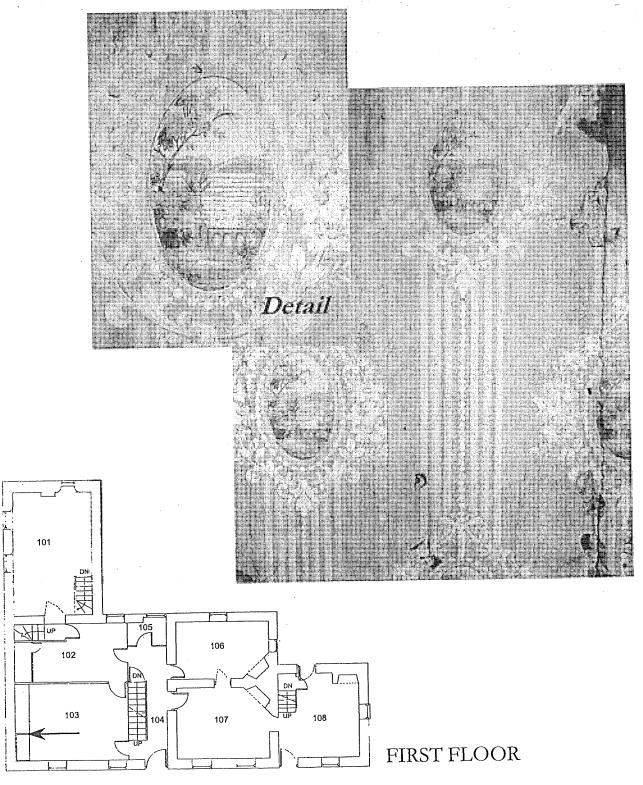


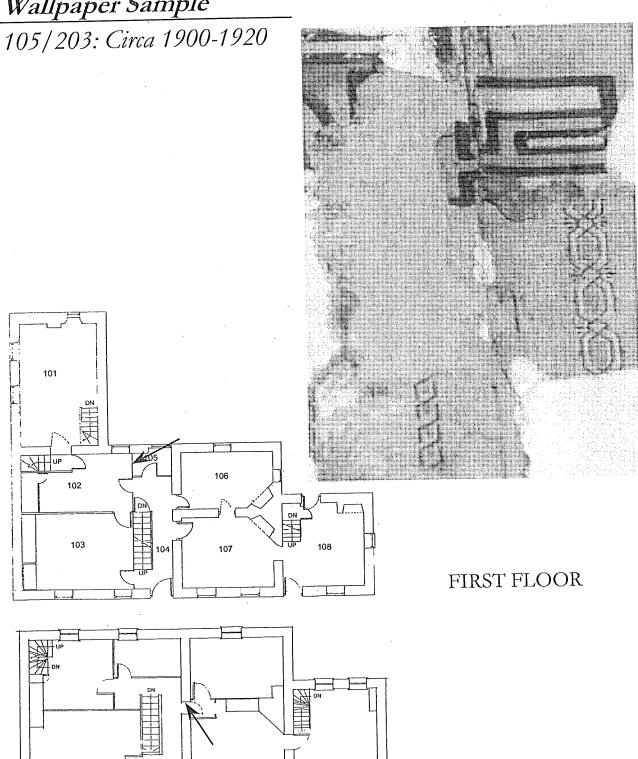


Appendix F

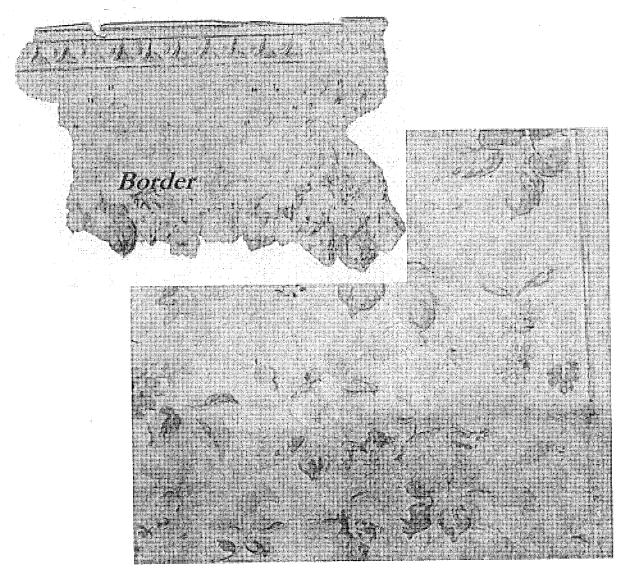


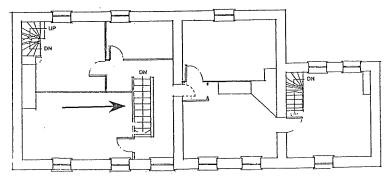
103A: Circa 1905-1910





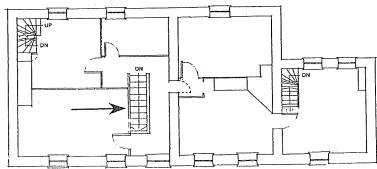
202A: Circa 1880



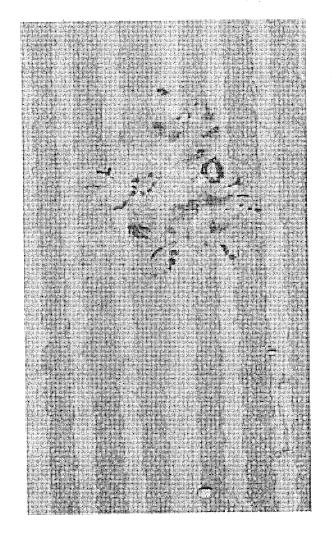


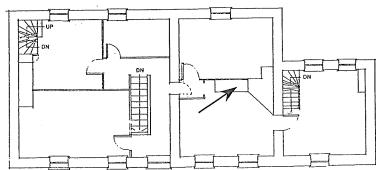
202B: Circa :1910

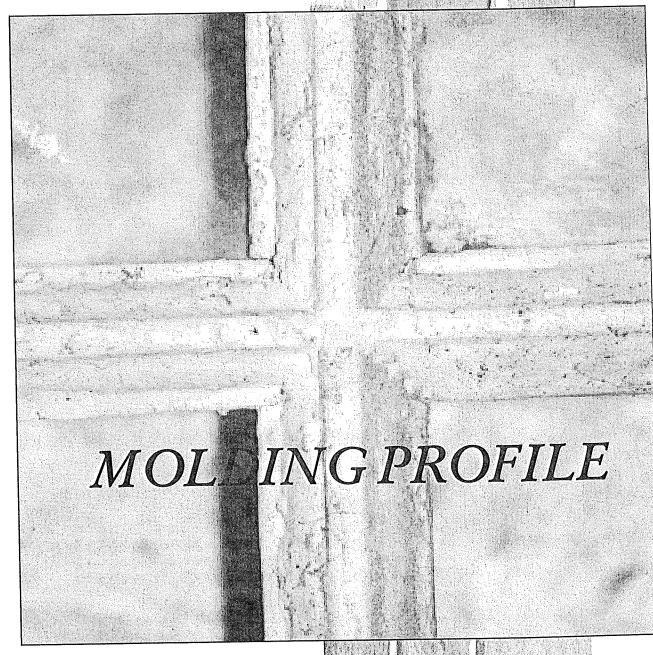




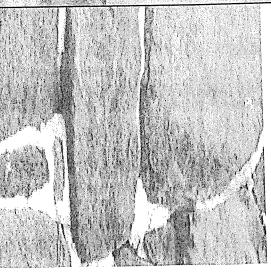
205: Circa 1880-1910



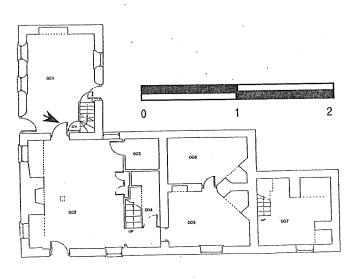




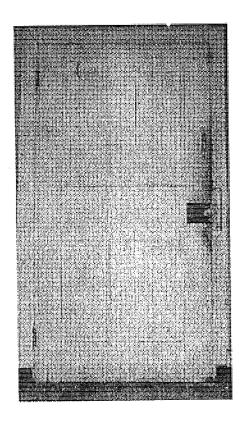
Appendix G

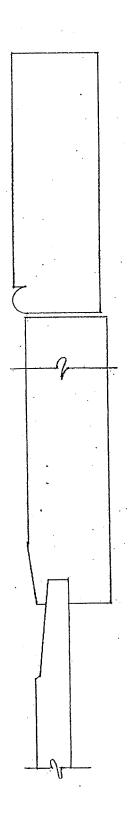


Room 001:Door Panel and Jamb (ca.1830-1850)

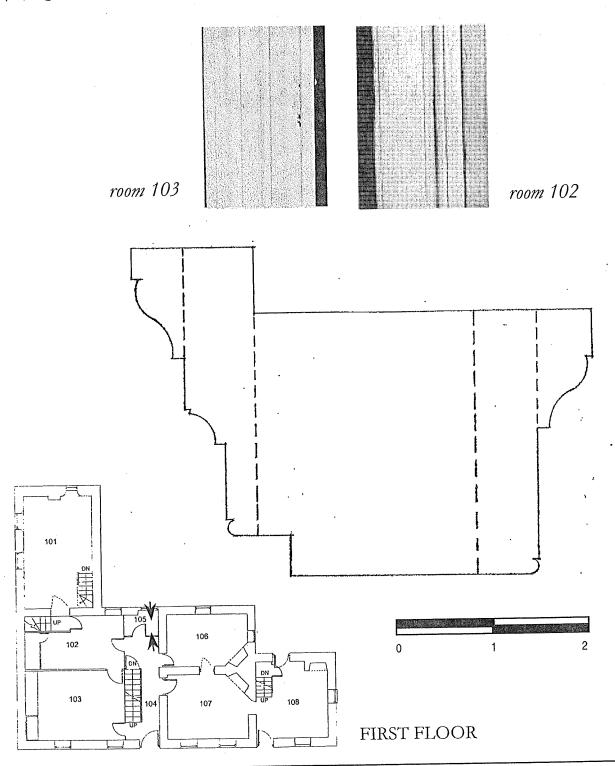


GROUND FLOOR



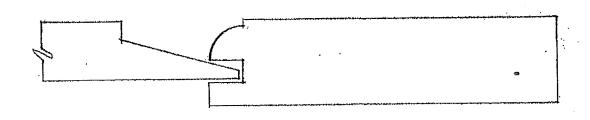


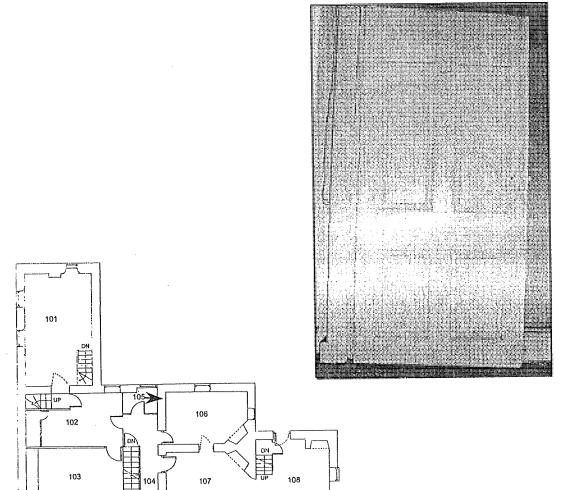
Room 102 & 103: Door Jamb (4th quarter of the 18th century)



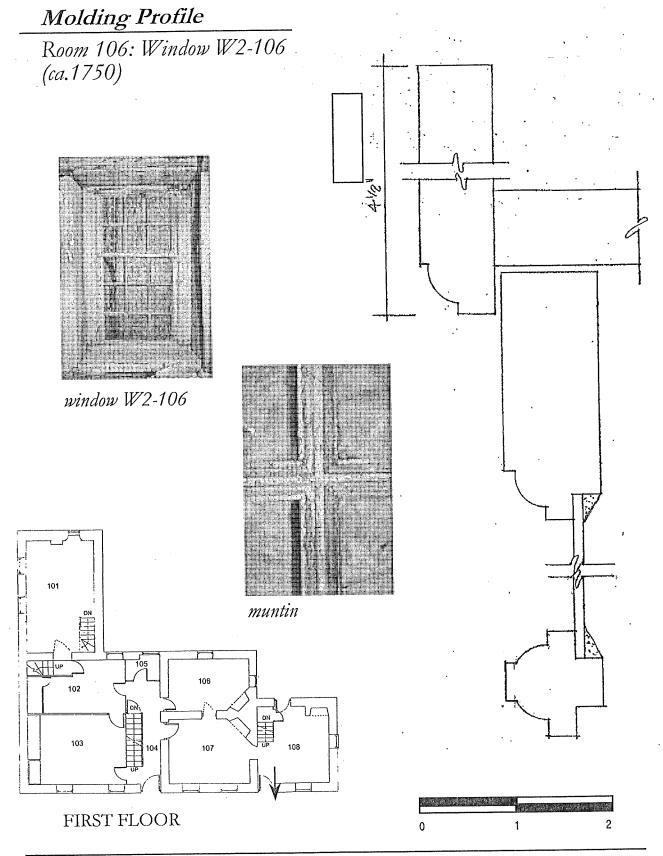
Room 103:Door Panel (ca.1750)



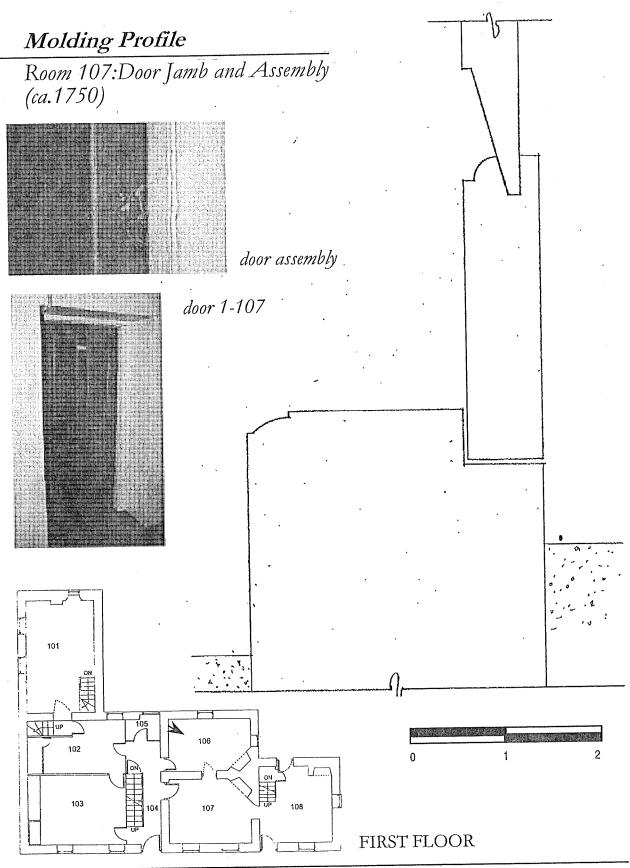




FIRST FLOOR



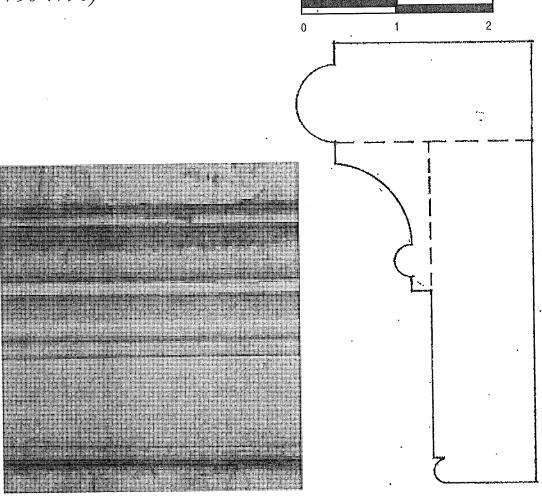
Appendix G Molding Profiles № 162

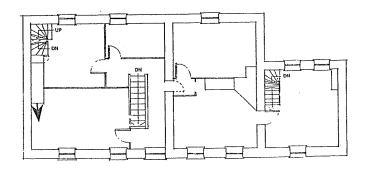


Appendix G Molding Profiles \$\&\ 163

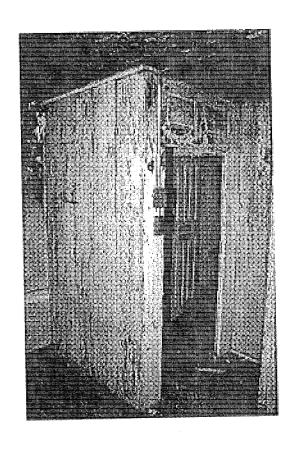
Molding Profile Room 108:Partition (ca. 1800-1825) Door Assembly (not original to opening, ca. 1759) からしな あえいりのと partition door 101 107 FIRST FLOOR

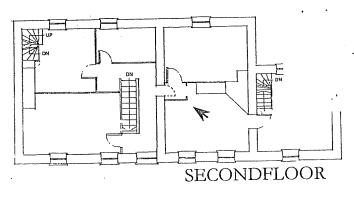
Room 202:Chair Rail (ca.1730-1790)

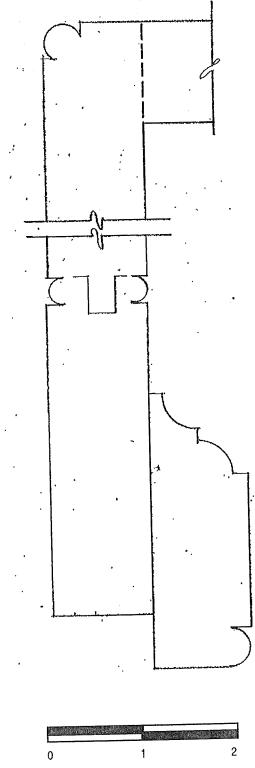




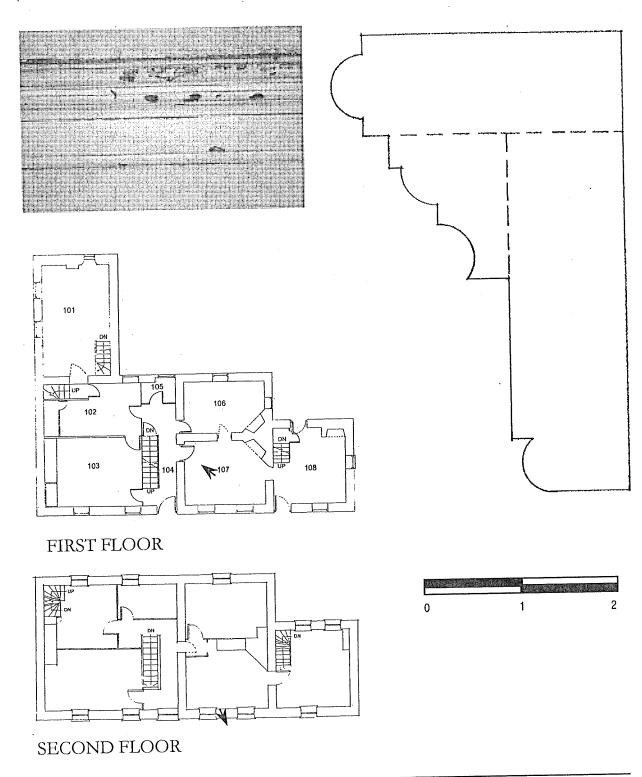
Room 205: Hall partition, door jamb (ca.1850)

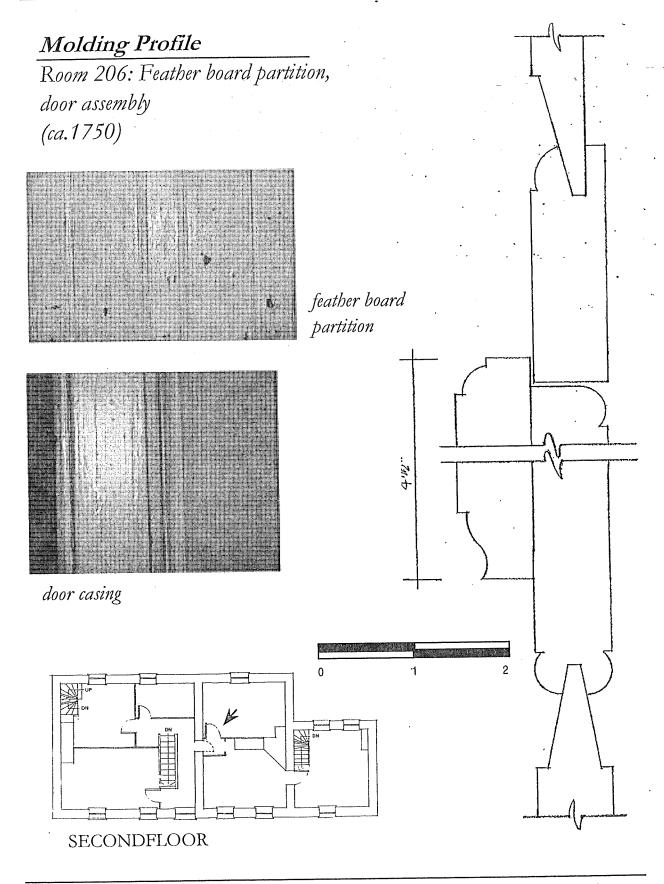


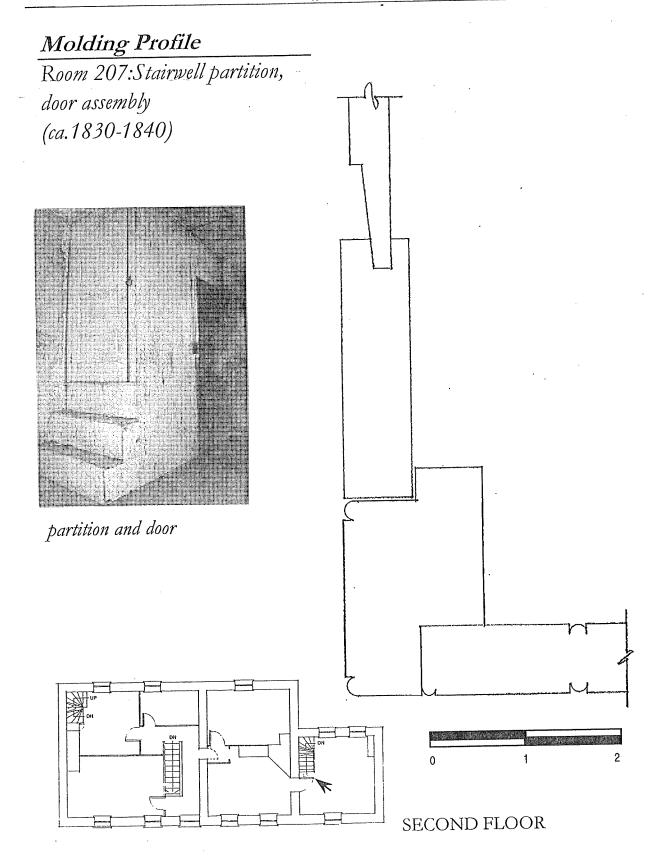




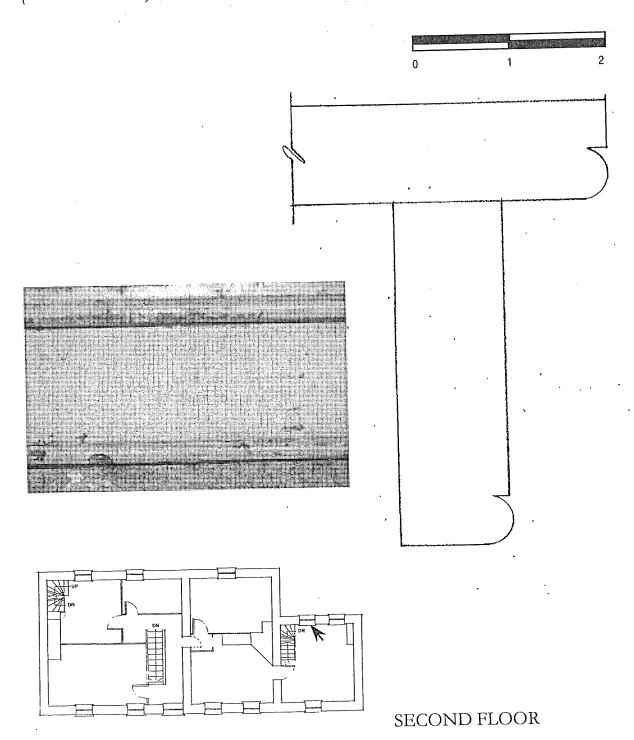
Rooms 106 and 205: Chair Rail (ca.1750)

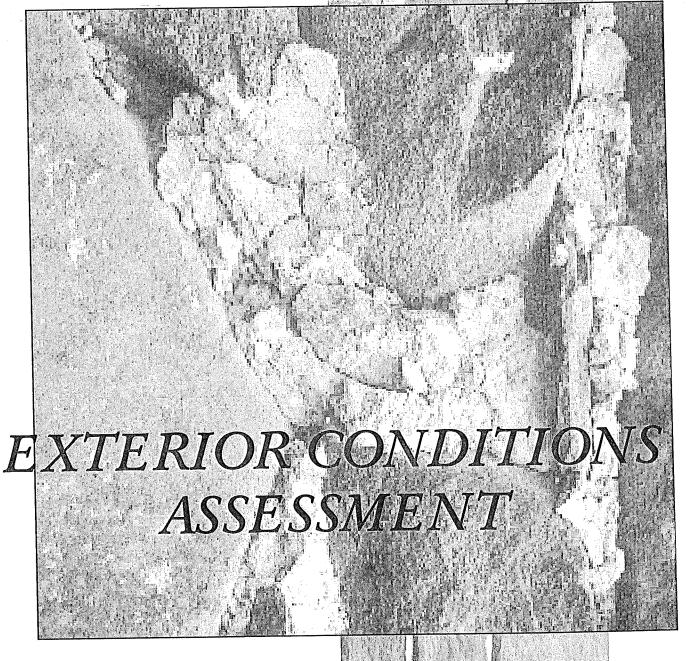






Room 207 : Window Sill, Apron W1-207 (ca.1810-1830)





Appendix H

#### Exterior Conditions

#### Mortar

bedding mortar loss

pointing mortar loss



repaired pointing

#### Stone



damaged stone



missing stone



charred stone

#### Stucco



stucco loss



stucco cracking



stucco repair and patching (with cement)



construction seams of building additions

#### Wood



rotting wood



exposed wood



missing joist pocket



damaged gutter / roof damage

#### Miscellaneous



biological growth



boarded-up architectural features



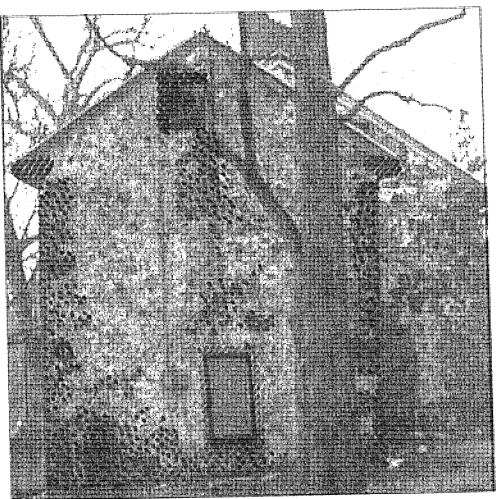
brick infill



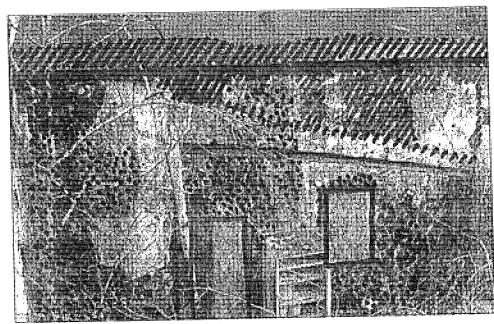
exposed iron



tar

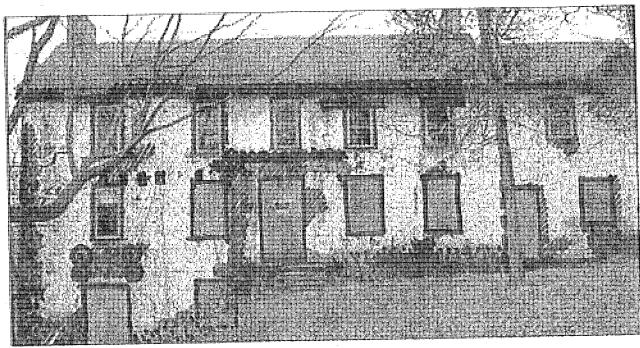


EAST FACADE (south)

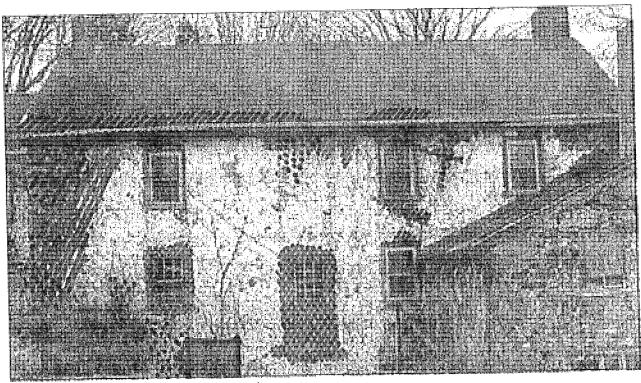


EAST FACADE (north)

Appendix H: Exterior Conditions Assessment \* 174



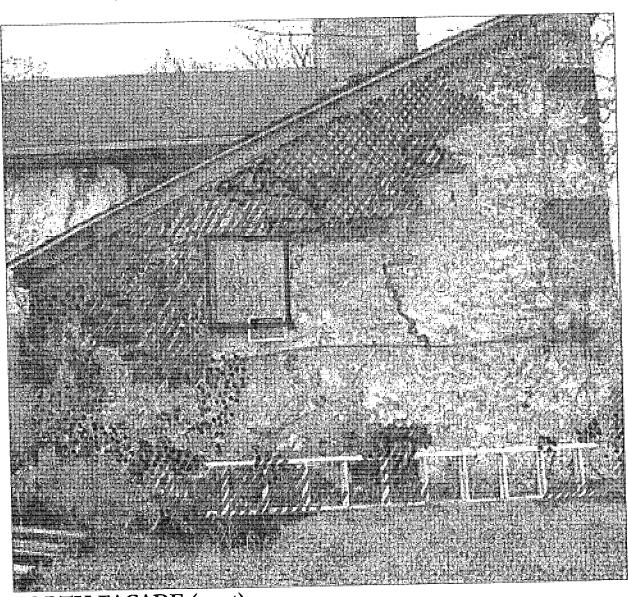
SOUTH FACADE



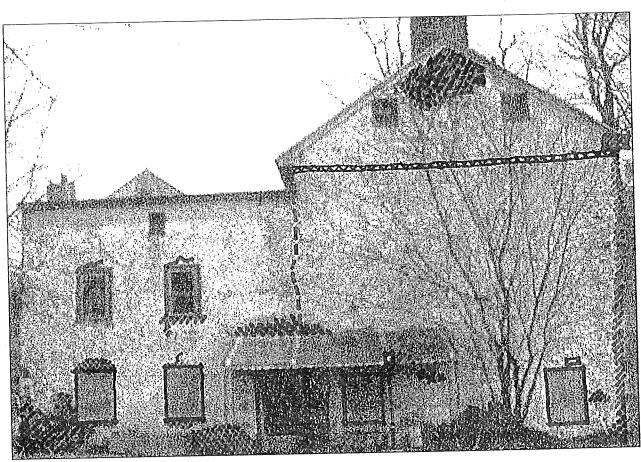
NORTH FACADE (center)



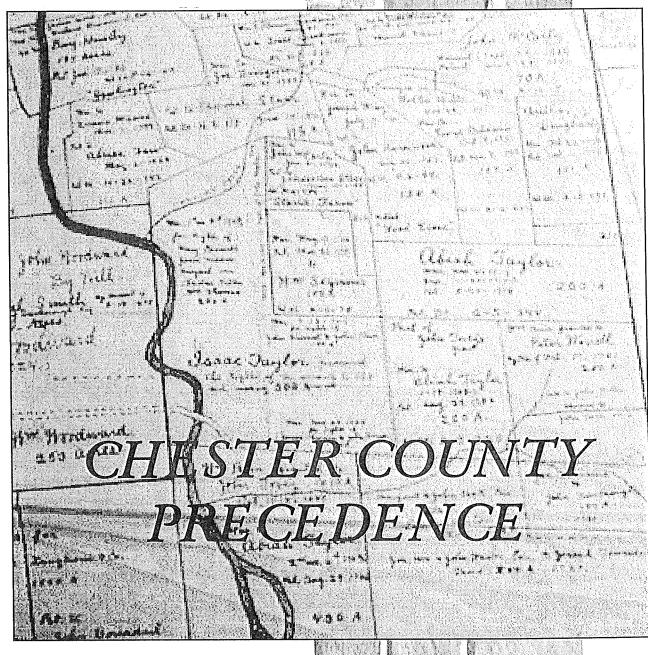
NORTH FACADE (east)



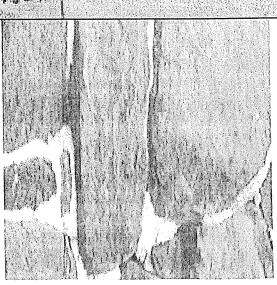
NORTH FACADE (west)



WEST FACADE



Endnote



# Historic East Bradford home preserved

By Peter Smolowitz INQUIRER CORRESPONDENT

EAST BRADFORD — A historic home here will be saved from the wrecking ball.

Joseph Andraos, 36, signed an agreement this month with Rouse/ Chamberlin Homes to buy a large stone house on Copeland School Road, near Route 322, that was built about 1750. Rouse/Chamberlin had wanted to demolish the structure, saying it was not profitable to restore.

was not profitable to restore.

Neither side would disclose the price. Rouse/Chamberlin was asking \$135,000

ing \$135,000.

"I'm going to revive the history of the house," said Andraos, who also renovated his current home, a 200-year-old building in Thornbury that was built as a train station. "It's a stone house, and that's what I like. It has more life in it."

East Bradford authorities and Rouse/Chamberlin representatives had been negotiating over how to preserve the home since fall, shortly after the developer agreed to buy land bordering the house. Workers started building 65 homes on the land this spring.

land this spring.

"We tried to come up with a workable solution that satisfied everybody," said Jonathan Penders, Rouse/Chamberlin's land development coordinator. "Mr. Andraos really is a craftsman, and we liked what he wants to do with the

house.

Andraos, who owns the Mediterranean restaurant in West Chester, said he expected to start working on the property next month, after construction permits are approved. His plans include restoring the original stone appearance, installing a new roof and doing some landscaping.

roof and doing some landscaping.
"There's a sycamore tree, it's
maybe 200, 300 years old," he said,
referring to the tree with a 15-foot
circumference that township officials once feared would be chopped
down. "It's a beautiful tree; so
maybe I'll do some pruning around
it."

Andraos has not decided whether he would move into the home or resell it after it is renovated. Either way, township officials are delighted

"We're really, really glad that somebody is going to come in and take care of the house," said Historic Commission member Jean Renshaw, "The house will look absolutely beautiful when it's done."