

Figure 1 Research area location map.

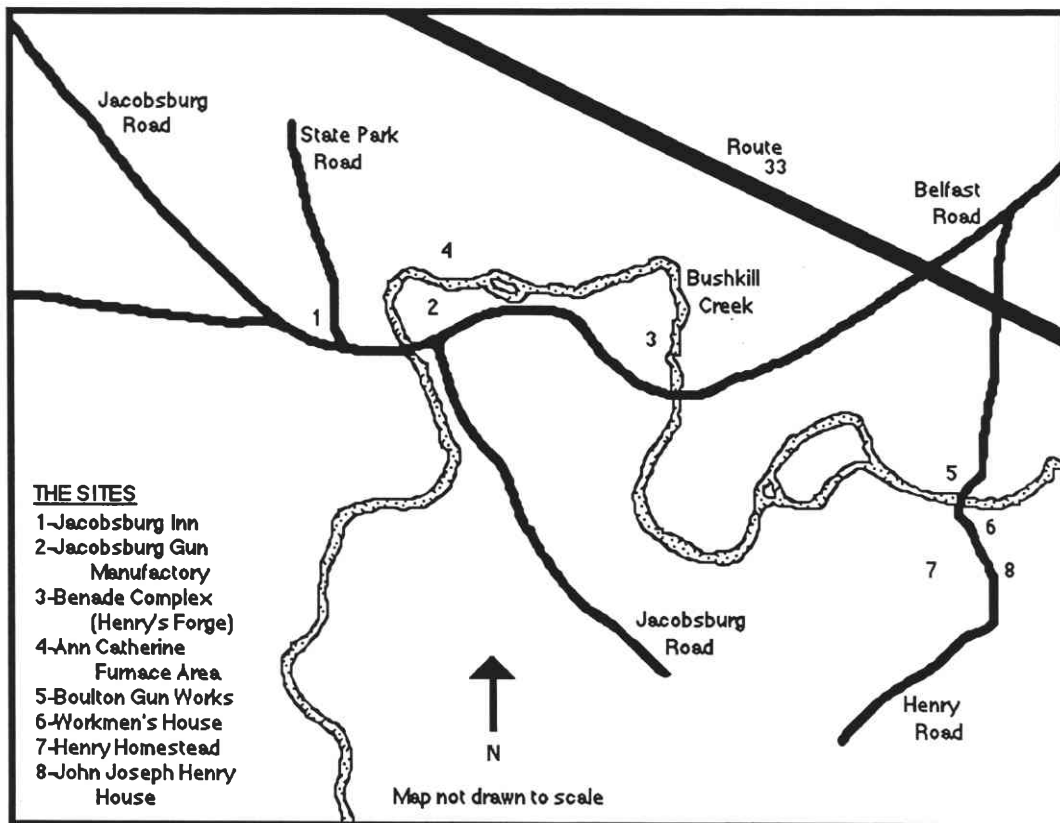


Figure 2 Historic sites location map.

# Lock, Stock and Barrel: The Henry Gunsmiths of Pennsylvania

Hope Elizabeth Luhman

At the foothills of the Pocono Mountains in Northampton County, Pennsylvania, lies a 1,166 acre tract of land owned by the Commonwealth of Pennsylvania and presented to the public as the Jacobsburg Environmental Educational Center (JEEC)<sup>1</sup> (Figure 1). In the late eighteenth century, the gunsmith William Henry II purchased acreage in this area and the Henry tradition of gunsmithing flourished here until the close of the nineteenth century. The JEEC, an outstanding cultural and historical resource, features the long-silent ruins (Figure 2) of two Henry small-arms manufactories, their support industries, living quarters for workmen, and Henry family homes.

The Henry family of Pennsylvania was a private small-arms manufacturer for over a century and a half, far longer than any other family-run private manufacturer, nearly as long as the public armory at Springfield, and surpassing the public armory at Harper's Ferry. From 1750 through 1895, this family business, perpetuated by five generations, managed to remain a craft industry with minimal reliance on machines, manufacturing small arms to order by traditional hand powered tools, such as boring and rifling machines, as well as the ubiquitous hammers and files.

Intensive historical research, conducted over the past five years, has sought to bring meaning and provide interpretation for the data gathered from over a decade of previous archaeological investigation at the JEEC. As an historical archaeological project, familiarity with the documentary record associated with the research area is critical to the interpretive process. The initial exploration of the archival materials<sup>2</sup> focused on the historical socio-cultural context of the Henry family industry and possible reasons for its failure, given its glorified past<sup>3</sup>. As the documentary research progressed, the research strategy shifted to focus on why one of the foremost American craft manufacturers of small-arms was able to survive as long as it did, shunning factory-level production and machines, and given the competitive nature of the small-arms industry. This paper seeks to present an historical sketch, albeit extremely brief<sup>4</sup>, of the five generations of the Henry gunsmiths of Pennsylvania (Figure 3) and endeavors to provide an interpretation for their success as a large-scale craft manufacturer.

## Historical Narrative

William Henry I (1729 - 1786) (Figure 4) was born 19 May 1729 in Chester County, Pennsylvania, to John and Elizabeth DeVinne Henry<sup>5</sup>. In 1744, William I was apprenticed to the gunsmith Matthew Roeser, of Lancaster,



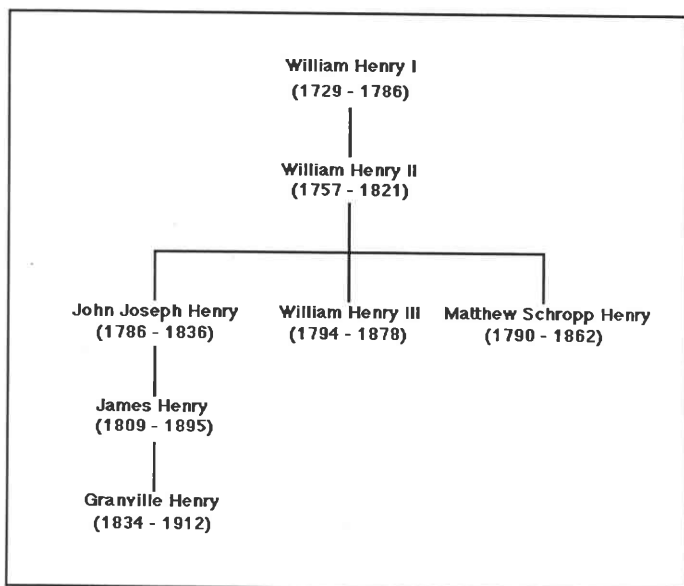
Pennsylvania. By 1750 he had completed his indenture and began a gunshop in Lancaster on Mill Creek, which came to be regarded as one of the best equipped in the American colonies. Henry's business career also included a partnership with Joseph Simon, a wealthy merchant involved in the Indian trade.

From 1750 through 1760, William I served as Armorer to General Edward Braddock's expedition against Fort Duquesne (1755), as Armorer for the Pennsylvania militia (1750 - 1760), and as Armorer to the Forbes expedition (1758). In 1776, William I supplied arms to the Continental troops and a year later the Commonwealth of Pennsylvania received Henry muskets.

From 1758 until his death in 1786, William I held many public offices and is associated with several notable and illustrious individuals of the colonial era, including Benjamin Franklin, Thomas Jefferson, David Rittenhouse and Thomas Paine. William I was also an accomplished inventor and is credited with experimenting on the steam propulsion of boats<sup>6</sup>, perfecting a steam heating system and designing a sentinel register for the regulation of flue-dampers on furnaces<sup>7</sup>. In 1771, William I invented the screw auger, for which he received a patent from England in 1777<sup>8</sup>.

William I died on 15 December 1786 at his home in Lancaster, after complications resulting from a cold he contracted while in New York with the Continental Congress.

Three weeks before his death, William I wrote a memoir<sup>9</sup> - an autobiography - in which he reviewed possibly the most important event in his life, his conversion to Moravianism. It may be useful at this point



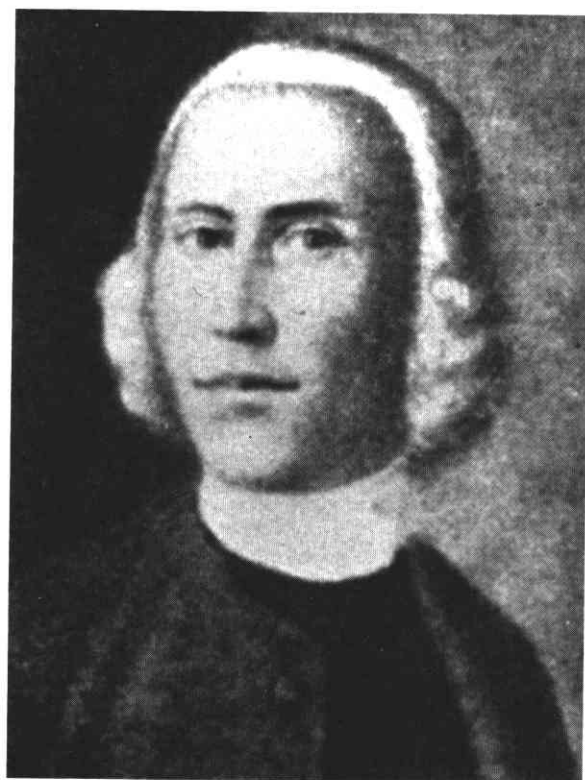
**Figure 3**  
A kinship chart of the Henry gunsmiths.

to introduce the Moravians. Moravians consider themselves to be members of the oldest Protestant Church in the world and derive their origins from the early 15th century when Jan (John) Hus was burned at the stake for heresy. His followers formed the “Unitas Fratrum” or “Unity of the Brethren” in Czechoslovakia. In the mid-15th century, the Moravian Church withdrew from the Church of Rome and two hundred years later was forced underground. Some of its members fled to Germany, where an Austrian lord, Count Zinzendorf, granted them sanctuary on his land.

In the 1740s, a small group of Moravians arrived in North America to form a settlement from which they hoped to missionize the Native Americans. Their first settlement, located in Georgia, did not survive the ravages of the environment, and the Moravians established their first permanent North American settlement in Bethlehem, Pennsylvania, and shortly thereafter in nearby Nazareth.

The Moravian Church, less concerned with dogma than with behavior, stresses devout feelings and experience, a belief in salvation, and faith as a social experience with members bound together in a community of brotherhood<sup>10</sup>. Moderation, attention to detail, and fulfilling a commitment to the best of one’s ability are still held as virtues. Moravianism is based “not on understanding but on feeling”<sup>11</sup> and emphasizes the heart over the mind as the essence of religious experience.

William II (1757 - 1821) (Figure 5), the eldest child of William I and Anna Wood Henry, was born on 12 March 1757 in Lancaster. In 1771, he was sent to Lititz, Pennsylvania, the Moravian community outside of Lancaster, as an apprentice to the gunsmith Andrew Albright. On 2 September 1776 William arrived at



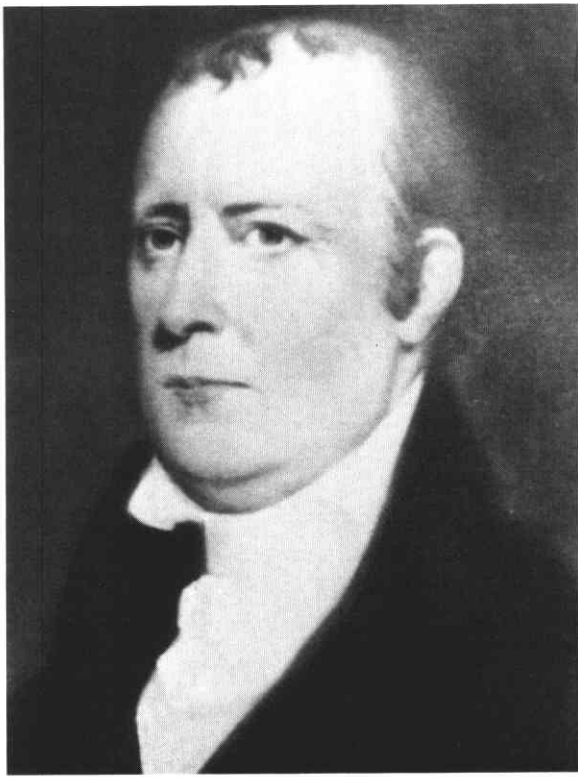
**Figure 4**  
William Henry I (1729 - 1886). Photograph courtesy of the Jacobsburg Historical Society.

Christian Spring, a 1,558 acre Moravian farm settlement run by fifteen single brethren, located near Nazareth. At Christian Spring, William II worked in the stocker-manufactory<sup>12</sup> under Brother Albright and/or Brother Loesch<sup>13</sup>.

In August, 1780, William II transferred from Christian Spring to Nazareth, then a community of 240 Moravians. To help launch William II’s building plans, William I promised cash totaling £1600, as well as glass, nails, an anvil, bellows and a half ton of iron. The village elders of Nazareth expressed support for William II’s building plans in their community<sup>14</sup>.

The gunsmithing activities of William II in Nazareth have been the subject of much local conjecture and it is quite possible that from the time he settled in Nazareth until 1794 he was not actively engaged in gunsmithing. Congregational needs for his services as a joiner may have taken him away from his chosen trade. In 1794, William II requested whether he could give up his joiner work and to “begin again his trade making stocks for the guns”<sup>15</sup>. It was not until 1799, however, that he was actually able to give up the joiner’s trade completely.

William II had been awarded a contract from the Governor of Pennsylvania the previous year for two thousand stand of muskets, which were due within two years of the date of the contract. At the time the contract was awarded, Henry notified the Nazareth elders and



**Figure 5**  
William Henry II (1757 - 1821). Photograph courtesy of the Jacobsburg Historical Society.



**Figure 6**  
John Joseph Henry (1786 - 1836). Photograph courtesy of the Jacobsburg Historical Society.

requested permission to build a two-story workshop in the community. William II also informed them that he hoped to be able to hire brethren to assist him in the shop, but he suspected that he would have to hire four to five “strangers” who would have to reside in the village and for whom he would be responsible. The brethren were greatly concerned with William II’s plans and were fearful not only about the building of such an establishment, but also about the influences that the strangers, brought in to work in such a manufactory, might have on the community<sup>16</sup>. By 1801, however, William II had established a gunsmithing business, as it is recorded that a fire broke out in Brother Henry’s “manufactory of arms” on 15 October<sup>17</sup>. Fortunately, there was inconsiderable damage.

As time passed, the Moravian brethren of Nazareth became troubled with the disruptive aspects of the Henry business, namely, the non-Moravian workmen and the constant testing of firearms, which as Henry’s business grew, became a more frequent occurrence in the center of town. Eventually, the situation required that Henry transfer a segment of his operation outside the village. This action not only eased the apprehension of the village elders, but it also met the demands of his expanding business. Earlier in 1790, William II had purchased about 450 acres a few miles to the north of Nazareth with several associates. Within a few years, William II was in sole possession of the majority of this property. The extant structures on the property and the ample water power

were perfectly suited to a growing industrial enterprise. Furthermore, the proximity of this area to Nazareth permitted Henry to retain his ties to the Moravian community. It was on this property, named Jacobsburg<sup>18</sup>, that William II established the Jacobsburg Gun Manufactory<sup>19</sup> in the late 1790s.

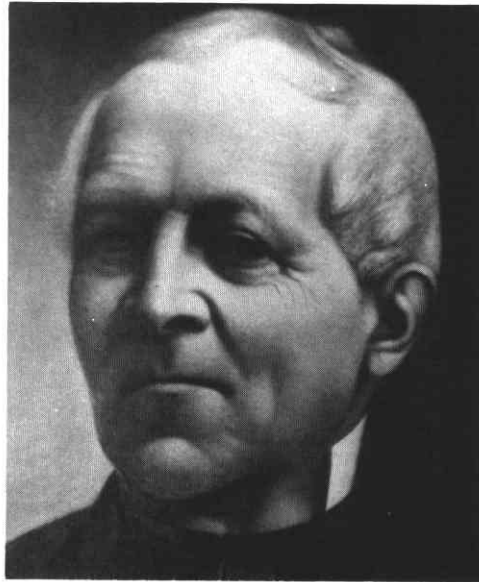
Despite transferring a portion of his operation to Jacobsburg, the village elders’ complaints against William II’s Nazareth manufactory continued, most notably against the shooting off of gun barrels. His retort to these complaints was that the shooting could not stop because “it belongs to the business”<sup>20</sup>. Additional problems emerged due to the contact between workmen in the factory and congregation members<sup>21</sup>.

In 1807 John Joseph (1786 - 1836) (Figure 6), William II’s eldest son, had established the American Rifle Manufactory, also known as J. Joseph Henry’s Manufactory, at Third and Noble Streets in the Northern Liberties of the city of Philadelphia where Henry Deringer, a life-long rival small-arms producer, also maintained a manufactory. In the 1809 - 1810 period, John Joseph had at least seventeen men working for him; their wages were paid in cash, with deductions for the files and sandpaper which were used.

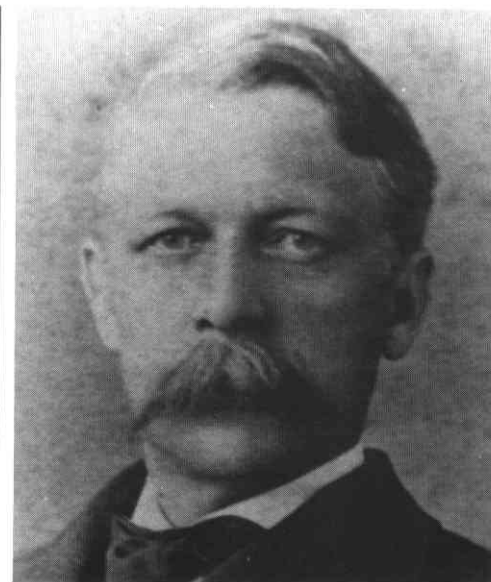
William II’s youngest son, William III (1794 - 1878) (Figure 7), left school in 1807 and began working in his father’s “old factory” in Nazareth and at the Jacobsburg establishment, where he filed gun mountings and assisted in parts production<sup>22</sup>. To ensure a steady supply of iron



**Figure 7**  
William Henry III (1794 - 1878). Photograph courtesy of the Jacobsburg Historical Society.



**Figure 8**  
James Henry (1809 - 1895). Photograph courtesy of the Jacobsburg Historical Society.



**Figure 9**  
Granville Henry (1834 - 1912). Photograph courtesy of the Jacobsburg Historical Society.

for his manufactories, William II erected Henry's Forge in 1808, about a quarter of a mile from the Jacobsburg Gun Manufactory.

In 1808, William II and John Joseph received a U.S. government contract for 10,000 stands of Charleville pattern muskets. One of the largest contracts given to a private manufacturer, it represented nearly one-eighth of the total number of muskets for which contracts had been awarded. The Henrys planned to produce the parts at Jacobsburg and Nazareth, ship them to John Joseph in Philadelphia, where they would be assembled and subsequently delivered to the Philadelphia Arsenal.

The Henrys soon began to experience difficulties with their federal contract. The inspection system for completed contract arms exhibited wide variation from inspector to inspector, leading to serious problems. The Henrys were finding it increasingly difficult to fulfill their contractual obligations, and the fragmented nature of the Henry operation exacerbated their difficulties<sup>23</sup>.

In 1812, John Joseph and his brother, William III, assumed their father's incomplete 1808 contract, and were "encouraged by the Secy of War then Wm Eustice to establish works comfortably . . ."<sup>24</sup>. As a result of this inducement, the Henrys embarked on an ambitious project: the building of the Boulton Gun Works (Figure 10). William III, then working at John Joseph's Philadelphia concern, was sent home to supervise the construction. The Boulton Gun Works, located on what was known as "The Boulton Tract", was therefore built on "the implicit promises of the Ordnance Bureau that earlier contracts would be followed by other contracts"<sup>25</sup>. On 8 April 1812, the Boulton Gun Works, located a short

distance from Jacobsburg and only one-half mile from Henry's Forge, was in operation<sup>26</sup>. The manufactory itself was 84 feet long, 32 feet wide and two stories in height. An 1816 description of the building, from an advertisement in the Philadelphia Gazette, locates a three-fire forge and a double triphammer in the western wing, with boring and grinding machines in the eastern wing. Several outbuildings were associated with the manufactory, some of which are known from the archival records, including workmen's quarters and a 20 foot by 24 foot shop, two stories in height, with two fires and a file shop in the upper story. This Boulton plant cost \$10 - 16,000 to build<sup>27</sup> and during the first decade of operation another \$10,000 was invested<sup>28</sup>. On 25 March 1817, William II turned over the deed to the Boulton Gun Works as well as its associated 167 acres, 112 perches to his sons, John Joseph and William III, in consideration of \$10,000. Despite building this manufactory, the Henrys continued to experience difficulties in fulfilling their federal contract. During the ensuing years the difficulty worsened and the United States government filed suit against them. In 1821 the situation was finally resolved to the satisfaction of both parties, but the Henrys never received another large-scale federal contract.

These had been difficult years for the Henry family. William III was managing the Boulton Gun Works, while John Joseph was still running the Philadelphia establishment. Between 1813 and 1814, John Joseph had a contract with the State of Maryland, supplying 3,947 muskets, 960 swords, 60 and one-half pairs of pistols and 60 rifles<sup>29</sup>. The 1820 Census of Manufacturers provides a look at the Henry firms around this time. In Philadelphia,



John Joseph had two employees, one man and one boy, and was manufacturing swords, pistols, and rifles. In discussing this business on the census form, John Joseph attributes the decline in his business due to the imports coming from England. At this same time, the Boulton Gun Works had eight to nine workmen and was manufacturing musket, rifle and pistol barrels. William III and John Joseph, listed as the joint proprietors of the Boulton establishment, also make reference to the marked business decline, and further note that five years previously they had employed nearly thirty-three men.

In 1822, John Joseph closed down the Philadelphia business and with William III merged the entire operation at Boulton. Soon thereafter, William III sold out his interest to his brother and left to pursue a career as a merchant and later, as an iron manufacturer and land speculator. John Joseph experienced several discouraging years, but the business eventually revived when the family began providing small-arms for the fur trade. Boulton's most productive years were from 1825 to 1859, when the Henrys produced over 18,000 rifles, 2000 shot guns, 6000 muskets, 4000 pistols, and nearly 40,000 rifle barrels<sup>30</sup>. From 1826 through 1858 the Henrys were also the major suppliers of rifles to the American fur trade, providing over 11,000 arms during this thirty-three year period<sup>31</sup>.

In 1836, after John Joseph died, his son James (1809-1895) (Figure 8) assumed control of the Boulton Gun Works and steered the manufactory through the majority of the fur trade and the Civil War periods.

The Census of Manufacturers for 1850 registers James Henry as "Rifle Manufacturer" with 20 employees requiring \$400 per month in labor costs. Production is listed as 1000 rifles and 500 rifle barrels annually<sup>32</sup>. During the 1850s, Boulton produced over 8000 rifles and 11,000 rifle barrels, but only 97 shot guns and 141 pistols. In 1860, six men were employed at a cost of \$75 per month for labor. During the 1860s nearly 9000 rifles, over 4000 shot guns and 2000 rifle barrels were produced, along with one pistol. By the 1870s, rifle production had dwindled by fifty-percent, rifle barrel production had ceased, yet nearly 4700 shot guns were produced. No rifle barrels were produced by Boulton after 1865. The 1880 Census portrays the business a decade or so before its demise. The business is listed as Henry & Son, employing ten men who together earned a total of \$2650 in wages for the eight-month work year. Comparing the Boulton Gun Works with the other establishments listed for Bushkill Township, it is readily apparent that the Henrys were paying the highest wages in the area for both skilled and unskilled labor. During the 1880s, over 3500 rifles and 2400 shot guns were produced.

The Boulton Gun Works drew its personnel from the nearby settlements. The overwhelming agrarian character of this locale meant that the majority of the workforce

also tended to their own farms. Work at the manufactory in many respects revolved around the workers' farming responsibilities, with employment at the manufactory not seen as a career, but rather as a supplement to their farm income.

The Henrys also relied on an extensive "putting-out" system. The community of Filetown<sup>33</sup>, so-named for the inhabitants' role as filers for the Henry manufactory, was the location for this cottage industry. The residents of this settlement had been introduced to this work by William II around 1800 when he had begun the Jacobsburg establishment<sup>34</sup>. The workers would go to the manufactory, be assigned tools for which they were responsible, and be given an allotment of work. When they finished they would return to the manufactory, bring in what they had finished, and be given more work. Credit was given to each employee based on the number of pieces filed.

The manufactory ledgers<sup>35</sup> reveal that the Boulton Gun Works and its auxiliary Boulton Farms were providing a great deal of goods to the workers. Workers were given credit for the work they performed, and in turn these credits could be taken in cash, goods, and/or services. The goods available from the Boulton Gun Works ranged from personal items such as bonnets and fabric to more domestically-oriented items such as coal, wood, coffee, sugar, beef, veal, grain and, sometimes, oysters. The services available included having the Boulton Gun Works pay for school and poor taxes, newspaper subscriptions, or even settling an account with a local general store. Workmen were also permitted to rent lots from Boulton Farms.

The manufactory records also reveal an extensive trade network had been developed by the Henrys with some of their long-standing business associates in Philadelphia<sup>36</sup>. This network operated in such a way that the Henrys were given not only cash or notes, but also merchandise in payment for an order. This merchandise included articles which were needed in the manufactory operation or parts for arms and may have also included food stuffs and goods for the Boulton Gun Works community.

During the last years of the manufactory's existence, less than one thousand small arms were produced. In 1895, the year of James Henry's death, his son Granville (1834-1912) (Figure 9) closed the Boulton Gun Works.

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## Conclusion

To understand and interpret the longevity and adaptability of this manufacturer, the issue can be examined from a number of perspectives. From an industry-wide perspective, the Henry family was able to find and maintain a niche as a large-scale craft-producer of small arms, and along with Henry Derringer and

Eliphalet Remington are considered one of the three principal large-scale craft producers of the nineteenth century, with reputations for quality allowing them to extend their markets beyond their local area<sup>37</sup>. From a social perspective, the association with the agrarian community was a mutually beneficial relationship. The Henrys used them as a labor source, and the community received access to goods and services that would not ordinarily be available. The community of Filetown facilitated the development of an extensive putting-out system.

One distinguishing factor not yet considered is the Henry family's connection with the Moravian community. When William Henry II was forced to move a portion of his business outside of the Moravian community of Nazareth, he did not relocate his residence but chose instead to remain in Nazareth. As the business continually expanded, despite the contractual problems and other difficulties, he remained in the Moravian community. When his sons eventually consolidated the operation at the Boulton Gun Works, the family began to reside in the same location as their business.

The Henry family was able to retain their cultural ties to the Moravian community, and keep their business a viable enterprise, by choosing to replicate that which was familiar. They chose to establish an industrial community based on the Moravian notions of brotherhood and dedication to good work<sup>38</sup>. The available workforce, the agrarian nature of the area and the Henry family themselves - the master craftsmen - were perfectly suited to maintaining a large-scale craft manufactory. Therefore, it is perhaps more appropriate to consider the Henry tradition of gunsmithing as a Moravian tradition, with an emphasis upon craftsmanship and product quality that contributed to their longevity at a time when other manufacturers began to diminish<sup>39</sup>.

Hope Elizabeth Luhman got her Bachelor of Arts degree from Muhlenberg College in 1980; a Master of Arts from Lehigh University in 1982, another from Bryn Mawr College in 1988, and will complete (or has just completed) her PhD at Bryn Mawr in the fields of Historical/Industrial Archeology. She has done graduate work at King's College, Cambridge University; Hunter College, City University of New York, and at their Graduate Center. Since 1980, she has had five internships, four grants or awards, one fellowship, and has been involved in some field work each year, taught nine courses in various fields of anthropology. All of which is most impressive, but that she was born in Allentown, Pennsylvania, went through the lower schools with, and is a good friend of Michael F. Pavkovic, whose "The Legendary Horseman" at the Savannah ASAC meeting was also an outstanding presentation, may be almost as impressive to ASAC members!

#### NOTES

1. - The JECC, is one of four such centers in the Commonwealth providing environmental education to the local population within a twenty-five mile radius.
2. - Collections consulted: Colonial Williamsburg, Commonwealth of Pennsylvania

Archives, Hagley Museum and Library, Jacobsburg Historical Society, Missouri Historical Society, Moravian Historical Society, National Archives, and the Smithsonian Institution.

3. - This was the first of many anomalies which I was to discover during the course of my research. Locally generated and perpetuated myth and the subsequent incorporation as historical fact have served to mask historical reality.
4. - For a more detailed discussion of the Henry family, see Luhman, 1988, and my forthcoming doctoral dissertation.
5. - John Henry had arrived in America from Ireland in the early 1720s, with his parents and his younger brothers.
6. - My forthcoming doctoral dissertation explores Henry's experimentation with the steam propulsion of boats in greater detail.
7. - Henry, 1771.
8. - Harris, 1872
9. - Lancaster County Historical Society, Case 30, Folder A.
10. - Gollin, 1967; see also Henry, 1859; Smaby, 1988.
11. - Gollin, 1967: 10.
12. - DNMC, 1776: 326.
13. - HC, #1250.
14. - DNMC, 1780: 14.
15. - DNMC, 1794: 101.
16. - From their establishment, all Moravian settlements were considered 'closed' communities. That is, only Moravian congregation members were permitted to reside in these communities. Village elders greatly feared the influences that outsiders might have on the moral fabric of their members. Moravian communities remained closed until the 1840s, when they were opened to outsiders for the first time. See also: DNMC, 1798: 152, for more information specifically related to the Henry case.
17. - DNMC, 1801: 764.
18. - Named for the area's first white settler, Hans Jacob Hubler.
19. - This is a name given to the structure by myself for the sake of clarity; archival research has failed to discover a particular name that was given to this structure. It is considered by this author to have been an auxiliary operation, is suspected to have been a grist and saw mill prior to its conversion to a gun manufactory by William Henry II. Henry apparently used it as such from the 1790s through 1812 - 1813, when the Boulton Gun Works was completed and had commenced production. After the Jacobsburg Gun Manufactory was no longer needed for parts production, it is suspected that it reverted to its earlier milling function. By 1818, William II's middle son, Matthew Schropp Henry (1790 - 1862) had purchased the acreage which included this structure.
20. - DNMC, 1802: 257.
21. - cf. DNMC, 1801: 248.
22. - HC, #1209.
23. - Luhman, 1988.
24. - HC, #1209.
25. - Henry, 1956: 4.
26. - HC, #1250.
27. - Sources vary.
28. - HC, #1209.
29. - HC, #1407.
30. - Sometime prior to his death, James Henry undertook the arduous task of compiling the production figures for the Boulton Gun Works for the 1823 through 1893 period - HC, #1209.
31. - Luhman, 1988.
32. - The production records for the Boulton Gun Works for 1850 indicate that, in actuality, 1026 rifles, 37 shot guns, 141 pistols, and 2277 rifle barrels were produced - HC, #1209.
33. - Filetown was originally named Asylum, as the community was comprised of individuals who had transgressed the moral codes of conduct in the Moravian congregational villages and had been expelled for their transgressions; c.f. Henry, 1851.

**NOTES (continued)**

- 34. - HC, #1250.
- 35. - The archival materials available for the Boulton Gun Works provide a fairly comprehensive picture of the manufactory throughout the years of its existence. Unfortunately, such records do not appear to exist for William I's gunshop(s) in Lancaster, nor for William II's establishments in Nazareth and Jacobsburg. The records for John Joseph's Philadelphia manufactory are reasonably complete.
- 36. - For example, the Tryon firm had a long-standing association with the Henry family.
- 37. - Fries, 1972: 10 - 11.
- 38. - The influence of Moravianism on the Henry tradition is the focus of my forthcoming doctoral dissertation.
- 39. - cf. Deyrup, 1948; 1970.

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**Figure 10**

**The Boulton Gun Works. Photograph from the Historic American Buildings Survey, 1936.**

Two of the speakers at Prescott failed to meet their obligation to the Society by submitting text and illustrations of their talks, so they could not be included in this *Bulletin*.