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Transforming Craft to Wage Labor

Archeology of a Worker's Houselot

Archeology has been performed in Harpers Ferry National Historical Park since 1959. The earliest excavations served to answer questions related to contemporary preservation needs, such as reconstructing the town's 1860s landscape. Over the past decade more inclusive histories of the park have developed and the park's research archeology program has taken advantage of this new paradigm. Archeologists are asking questions that go beyond particularistic landscape and architectural reconstructions. While several of these issues have been addressed in a previous *CRM* publication (Shackel 1994:16–19) I will explore here the changing relationship of work and domestic life during Harpers Ferry's early industrial era.

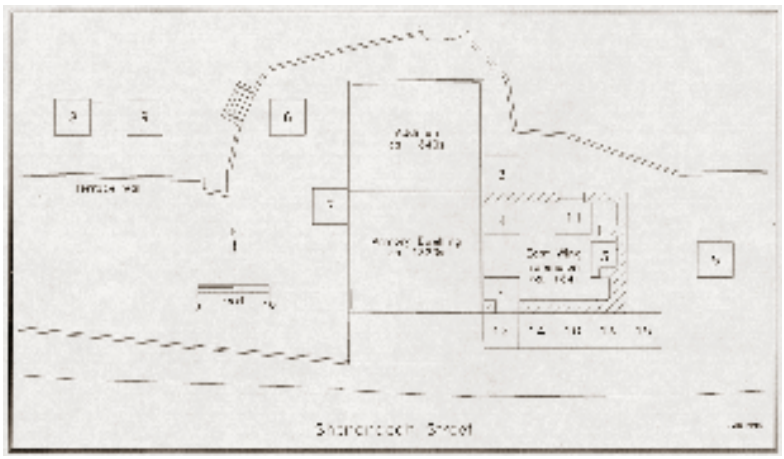

Fig.1.Excavation plan of the Armory Workers'House in Harpers Ferry National Historical Park.Drawing by John Ravenhorst.

Arms production at the Harpers Ferry Armory began with craftsmen who were knowledgeable in the production of the whole gun. The transformation from craft production to wage laborers in a production line creating interchangeable parts came with great difficulty at the armory and it was not fully implemented until the 1840s. While it appears that some armorers accepted their fate in return for wages, others felt their livelihood was at stake, especially when their wages decreased with the introduction of new machinery. However, the de-skilling of craftsman was not immediately transformed into a wage earner at Harpers Ferry. Rather, an intermediate form of production was created—piecework. The pieceworker comprised a significant proportion of the armory's labor force in the 1820s and 1830s. The armorer was no longer considered a true craftsman, since he specialized in the production of only one part. The pieceworker, however, had some control over his production. He was able to dictate his work hours as well as his rate of production. His presence represented the last vestiges of the freedoms that were synonymous with craft production (Smith 1977). With the establishment of piecework, armorers lost their skill and they became interchangeable within the larger manufacturing process. Historically, it has always been assumed that piecework occurred solely within the armory grounds. Workers were allowed the freedom to come and go as they pleased as long as they met monthly quotas and all parts of the arms manufacturing process occurred within the factories. Therefore, we assume that a true separation of work and domestic life had occurred with the piecework system. However, excavation of an armory workers' assemblage, dating to the era that piecework predominated, the 1820s and 1830s, indicates the possibility that armorers took greater liberties in the location of their work, and domestic manufacturing was still part of the production process.

The domestic lot associated with armory workers and their households was excavated by National Park Service archeologists (Shackel 1994). The house was originally constructed in the

Fig.2.A Lock from a U.S. Flintlock Musket Model 1816.

Figures 2–4,photos by Cari Young Ravenhorst.

Fig. 3 Armory workers'tools including flat files, half-round files, triangular files, and a wood chisel.

1820s along with a bake oven, smokehouse, privy, and stable (figure 1). While it is uncertain whether its original owner actually inhabited the building, armory workers and their families probably occupied the building for most of the first half of the 19th century. While armory records from 1841 to 1852 indicate the specific households that rented the structure, armory records dating before and after this era have been destroyed, thus making identifications of specific families in the structure difficult (Bumgardner 1991). Since a significant proportion of armory workers were piece-rate workers in the 1820s and 1830s, and the dwelling was relatively small, there is a good probability that pieceworkers inhabited the structure rather than supervisors. Even though the archeological evidence consists of one house lot, it does provide an example of changing relations between work and domestic life at the armory.

Fig.4.Combination tool.

Three goals directed the excavation strategy at the armory workers' house: (1) to aid architectural historians; (2) to provide a diachronic analysis of the changing physical and cultural landscape; and (3) to contribute to the interpretation of 19th-century domestic life among armory workers in Harpers Ferry. Therefore, excavation units were placed randomly throughout the backyard as well as adjacent to architectural features.

Archeological evidence from the armory workers' house supplies some indication of home production of arms in the form of piecework. The earliest archeological context at the house dates from the 1820s until 1841. Archeologists discovered part of a .52 or .54 caliber gun barrel, a gunlock of which the lock plate measures nearly 6", a side screw for securing the lock to the stock, and a large wood screw for attaching the butt plate to a gun stock. These items, identified by Edward Ezell, former curator at the Smithsonian Institution, were probably from a U.S. Rifle Model 1816 (also see Brown 1968:65) (figure 2). Also found is a middle barrel band, a nearly complete socket bayonet from a U.S. Flintlock Musket Model 1816 (Reilly 1970:2–3), and two ramrods (Larsen 1994b:6.6).

Tools found in this context related to armory production include a wood chisel, probably for the modification or construction of stocks. Three different types of files—flat, half round, and triangular—relate to metalworking (figure 3). Also identified was a combination tool (figure 4). Combination tools varied in form and shape, depending upon the model that they serviced. Huntington (1972:251–255) describes the constant modifications made to the combination tool during the 1830s. This combination tool probably serviced a pre-1842 model gun.

The tools and arms parts identified in association with the various craft-made arms parts (all muskets prior to the 1840s) provide an interesting scenario. The assemblage dates to the era of craft and piecework manufacturing prior to the imposition of manufacturing discipline. The armory workers who occupied the structure prior to the 1840s apparently worked with the manufacturing of weapons at their domicile. The tools probably came from the armory, and the discarded gun parts were produced by the armorer to supplement his family's income, or they may have been part of the armory's piecework production. In either case, the gun parts are all from guns that were primarily produced in the U.S. Armory during the era predominated by piecework. Currently, no documentation exists that states that some types of piecework were performed by armorers at their house. The presence of gun parts and wood and metal filing tools at an armorer's dwelling challenges this assumption. Pre-factory discipline at the U.S. Armory may have encouraged, or at least it did not discourage, armory workers from laboring in their homes.

When the military assumed control over arms production at the armories in 1842, two types of labor existed in the factory—day-workers and pieceworkers. The inconsistency of time for the different occupations to complete tasks and meet quotas was noticeable into the 1840s. In 1842, Master Armorer Benjamin Moor noted that

some of the armory employees "work as much as 10, some as much as 11, some not more than 8, and some not more than 6; the Barrel welders, between 8 and 9 hours" (Inspection of Harpers Ferry Armory, R.G. 156 Ordnance Office no. 28, c75, 25 February 1842).

The Harpers Ferry Armory Superintendent ordered that all armorers must work a standard amount of time within the confines of the factory. In response, the pieceworkers and many of the day hands went on strike. They assembled in the Arsenal Yard where speeches were made denouncing the military system. They discussed the recently-enforced regulations that required all workmen to conform to a new time discipline reinforced by the striking of the bell that signaled the start and the end of work (Letter, Craig to Talcott, 21 March 1842, HFNHP 12(10):942–44). While striking for over one week, no disorder or violence occurred, although citizens rallied in public gatherings in support of the armorers (Letter, Craig to Talcott, 22 March 1842, HFNHP 12(10):946; VFP 31 March: 1842:2). An unsigned letter to President Tyler from the armorers protested the actions taken under the military system. It stated that "the armorers of the Harpers Ferry Armory, feeling that their rights as Freemen have been wrested from them ..." (Letter, Anonymous to President John Tyler, 28, March 1842, HFNHP 23(2):136–147).

A large number of armorers chartered a Chesapeake and Ohio canal boat and proceeded to bring their grievance to President Tyler. The president courteously greeted the armorers and shook hands with each of the men. Tyler told the armorers that he greatly appreciated their work, considering "the workmen as the bone and sinew of the land and its main dependence in war and in peace ...." but "they must go home and hammer out their own salvation" (Barry 1988:31–32). Tyler also promised that their grievances over the military system would be addressed. Upon their return to Harpers Ferry, amnesty was granted by the Secretary of War, and workers returned to their jobs on April 1 (Letter, Craig to Talcott, 22 March 1842, HFNHP 12(10):946–48; VFP 7 April 1842:2). The House of Representatives created a committee to investigate the armorers' protest and they ruled in favor of the military system (VFP 1 December 1842:2). Both houses of Congress adopted a bill providing for a military superintendency (VFP 25 August 1842:2).

Rules and Regulations for the workshops were reprinted and posted in the armory workshops. For instance, rule five stated "All persons employed at this Armory, will at the signal for work, repair to their appropriate Stations, and then perform their duties diligently and in an orderly manner" (Rules and Regulations for the Workshops US Armory, 16 October 1842, HFNHP 24(10):920–21). This rule implies that all workers were to be accounted for and, therefore, they must labor within the factory at their assigned work station. Standardized hours of production became synonymous with the military superintendency.

The archeological context from the armory workers' dwelling provides data that reflects changes between the relationship of production and domestic life. With the formality of the work place and the imposition of time discipline and accountability of laborers, tools, and products, the armory worker increasingly lost control over a portion of his life. The change to this new manufacturing discipline and its affects on the daily activities of armory workers is noticeable at the household level.

An archeological context that dates from 1841 through 1852, from an armory worker's house described above, contributes some clues as to the effects of the new work discipline on domestic relations. The historical record indicates that in the early 1840s, at least, an assistant jobbing smith, who may have done some piecework, lived in the structure. By the late 1840s, a mechanic and his family occupied the structure (Bumgardner 1991). The mechanic needed to be bound to the rhythm of industry and was an essential component of the industry's mechanization and operations. Therefore, he did not operate under the piecework system, and he could not spend any of his work time anywhere else except at the factory.

The archeological record indicates a substantial decrease in the amount of arms parts found in the domestic assemblage at the armory workers' house. One arms part, a mainspring from a gunlock, and only a few files were found (see Larsen 1994b:6.5).

The sharp decrease in arms and tools in the domestic assemblage of an armory workers' dwelling is indicative of the changes found in the armory as a whole. The new military system greatly impacted the worker as well as his household's domestic relations. The new work reforms eradicated any vestiges of craft production remaining in the armory. Many of the armory workshops were stripped of their outdated machinery starting in 1838, and they were replaced with new machinery that created interchangeable parts for the mass production of guns (Smith 1977:284). Every part and every person became accountable in the production of firearms and hours of operation were established (Smith 1977:271).

Only one arms part and a few tools were found in the armory workers' domiciles post-1841 assemblage. This pattern is probably reflective of the increasing control that the military superinten-

dency had on the production process. A clearer division was made between the work process and domestic life. Any means that an armory worker had to supplement his income through greater production in the piecework process was taken away. Workers' production was confined to the factory for ten-hours, a work day longer than they were accustomed.

Historians have made significant contributions to the changing physical history of Harpers Ferry (see Snell 1981a, 1981b), and to the development of new technology and social unrest (Smith 1977). They have, however, paid little attention to the social and domestic relations of armory workers' domestic life in an armory town. This archeological investigation of an urban house lot provides a picture of the transformation of domestic relations in an industrializing town. The change from craft to piecework to wage labor truly affected domestic life of armory workers' households as well as their relationship with the rest of the community.

References

Barry, Joseph

1988 *The Strange Story of Harpers Ferry With Legends of the Surrounding Country.* Reprint of 1903 edition. Shepherdstown Register, Inc., Shepherdstown, West Virginia.

Bumgardner, Stan

1991 Historic Structures Report, Building 48, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia. National Park Service/University of Maryland Cooperative Agreement Historic Research Project. On file, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia.

Huntington, R.T.

1972 *Hall's Breechloaders: John H. Hall's Invention and Development of a Breechloading Rifle with Precision-made Interchangeable Parts, and Its Introduction into the United States Service.* George Shumay, York, Pennsylvania.

Larsen, Eric

1994 Worker's Privilege: Metal Items from Park Building 48. In *Domestic Responses to Nineteenth-Century Industrialization: An Archeology of Park Building 48, Harpers Ferry National Historical Park, Occasional Report No. 12,* edited by Paul A. Shackel, pp. 6.1–6.12. U.S. Department of the Interior. National Park Service, Washington, D.C.

Reilly, Robert M.

1970 *United States Military Small Arms: 1816–1865.* The Eagle Press, Baton Rouge, Louisiana.

Shackel, Paul A.

1994 Archeology of an Industrial Town: Harpers Ferry and the New Order of Manufacturing, *CRM* 17(1):16–19.

1994 *Domestic Responses to Nineteenth-Century Industry: An Archeology of Park Building 48, Harpers Ferry National Historical Park, Occasional Report No. 12.* Department of the Interior, National Capital Region Archeology Program. National Park Service.

Smith, Merritt Roe

1977 *Harpers Ferry Armory and the New Technology: The Challenge of Change.* Cornell University Press, Ithaca, New York.

Snell, Charles W.

1981a A Comprehensive History of the Armory Dwellings, Houses of the U. S Armory at Harpers Ferry, Virginia, 1789–1884. *Volume I. A History of the Construction, Repair, Improvements, and Acquisition of Armory Dwelling Houses 1789–1841.* On file, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia.

1981b A Descriptive Catalog and Directory of 187 Armory Dwelling Houses, 1841–1852 of the U. S. Armory at Harpers Ferry, Virginia. Including Rents Collected. Volume II. *A History of Armory Houses.* On file, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia.

Virginia Free Press [VFP] Charles Town, Virginia/West Virginia. Newspaper on microfilm, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia.

31 March: 1842:2

7 April 1842:2

25 August 1842:2

1 December 1842:2

Letters. On microfilm, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia.

Rules and regulations for the Workshops US Armory, 16 October 1842, HFNHP 24(10):920–21

Letter, Craig to Talcott, 22 March 1842, HFNHP 12(10):946-48

Letter, Anonymous to President John Tyler, 28, March 1842, HFNHP 23(2):136–147

Letter, Craig to Talcott, 22 March 1842, HFNHP 12(10):946

Letter, Craig to Talcott, 21 March 1842, HFNHP 12(10):942–44

Photostat. On file, Harpers Ferry National Historical Park, Harpers Ferry, West Virginia.

Inspection of Harpers Ferry Armory, R.G. 156 Ordnance Office no. 28, c75, 25 February 1842

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