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Abstract

Sixteen years after the end of the Revolution, and on the eve of the formation of Adams county, the United States became embroiled in a "quasi-war" with France (1797-1801) which strained the federal treasury. As a result of the diplomatic disagreement, Congress approved several bills to fund America's military build-up. One of these, the U.S. Evaluation Tax of July 9, 1798, was signed into law to raise two million dollars in revenues. The direct or "window tax" was levied based on landholdings, buildings and the number of glass lights, and slaves-in essence, a federal property tax.

Although the "window tax" was considered a burden by most contemporaries, it was a blessing for modern cultural scientists. Fulfilling their duty by compiling at least five schedules for each township, the assessors described each major structure on nearly every farmstead and in every village and town in York county, noting building dimensions, number of stories, number of windows and lights, and construction materials. Although some schedules have not survived, the remainder graphically illustrate that most of the dwelling houses in Adams county by the summer of 1798 were made of wood. [*excerpt*]

Keywords

Adams County Historical Society, ACHS, Pennsylvania History, window tax, property tax, American Revolution, log cabin

Anatomy of a Log House in Adams County, Pennsylvania and Its Unspoken Language*

by Elwood W. Christ

The Typical Adams County Log House: A Statistical Analysis of the U.S. Direct Tax of 1798 Data for Adams County Townships

Sixteen years after the end of the Revolution, and on the eve of the formation of Adams county, the United States became embroiled in a “quasi-war” with France (1797-1801) which strained the federal treasury. As a result of the diplomatic disagreement, Congress approved several bills to fund America’s military build-up. One of these, the U.S. Evaluation Tax of July 9, 1798, was signed into law to raise two million dollars in revenues. The direct or “window tax” was levied based on land-holdings, buildings and the number of glass lights, and slaves—in essence, a federal property tax.

Although the “window tax” was considered a burden by most contemporaries, it was a blessing for modern cultural scientists. Fulfilling their duty by compiling at least five schedules for each township, the assessors described each major structure on nearly every farmstead and in every village and town in York county, noting building dimensions, number of stories, number of windows and lights, and construction materials. Although some schedules have not survived, the remainder graphically illustrate that most of the dwelling houses in Adams county by the summer of 1798 were made of wood.

Of the 1,725 structures listed by the assessors as “dwellings” or “cabins” in the twelve townships that comprised the bulk of Adams county in 1800, 1,548 were listed as dwellings valued at \$100 or more.¹ However, those schedules containing data on building materials, dimensions and/or structure heights were missing or could not be reconstructed from other tax records for Hamiltonban, Huntington, and Straban townships. Thus, only 1,230 structures, valued at or above \$100, in the remaining eight townships could be analyzed according to building materials, or approximately 79.5 percent of the overall number of dwellings counted.

** This paper is adapted from the original prepared in 1991 by the author as partial fulfillment of the Master’s Program in American Studies at Pennsylvania State University-Capital College*

Nevertheless, in those eight townships, about 89.7percent of the identifiable dwellings were constructed of wood (see table below).

***Preliminary Statistical Overview:
Dwellings in Adams County, ca. 1800***

1,230 Dwellings in 8 Townships
Identified by Building Materials
in the U.S. Direct Tax of 1798

Material	No. of Buildings	Percentage of Total
WOOD* -----	1,103	89.7%
STONE -----	89	7.2%
WOOD & STONE ----	17	1.4%
BRICK -----	12	1.0%
WOOD & BRICK ----	7	0.6%
STONE & BRICK ----	1	Less > 0.1%
WOOD & CLAY -----	1	Less > 0.1%
	1,230	100.0%

**Includes LOG, FRAME and LOG & FRAME dwellings.*

Secondly, we computed the average dimensions for all buildings in those eight townships, valued at \$100 or more and regardless of building material, and for one- and two- story log houses. The average one-story log home was roughly 26-by-20 feet, but the average two-story variety was nearly 30-by-25 feet—about 43 percent larger than the one-story dwelling and covering an additional area of approximately 226 square feet. Generally, one-story log houses were 12 percent smaller than the overall average house in Adams county, while two-story log homes were 26 percent larger than the overall average.

Construction of a Log Dwelling á la Art Snyder

Although an analysis of the Direct Tax data gives the material culturist some insight into the physical size and shape of log dwellings that stood in Adams county 200 years ago, the numbers are sterile—devoid of any human characteristics except for the penmanship of the tax assessor. The numbers neither relate the three-dimensionality of the log struc-

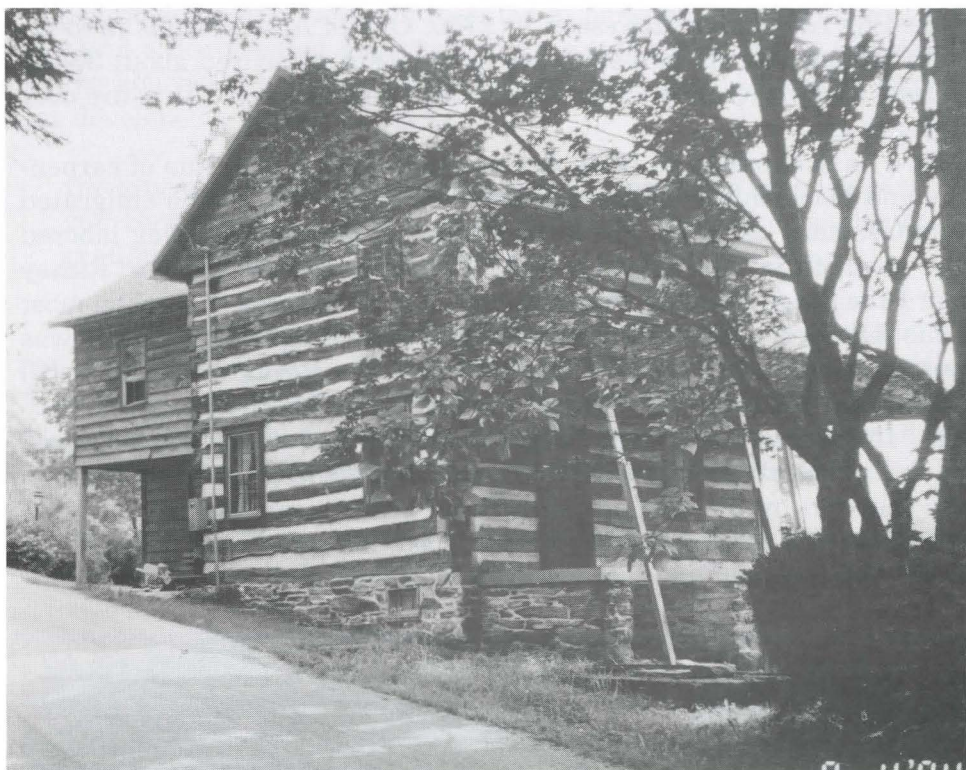


Fig. 1 - H. Endy House (1872 Atlas), Spigot Valley Rd., Franklin township. Situated near the banks of Marsh Creek, this log house is a fine example of home construction in Adams county during the eighteenth and early nineteenth-century.

tures nor the craftsmanship that was chopped, hewn and carved into them. According to Art Snyder of Liberty township, Adams county, a twentieth-century “joiner,” blacksmith and farmer,

sometimes there are things that you see in a [log] building that really doesn’t make sense until you start workin’ on or workin’ with it somehow or another, . . . then you realize why some of the timbers were set the way they were . . . Each building is its own entity . . . and you have to, first off—in order to understand a specific building—you have to understand the use of it, and sometimes you sort’a have to understand to some extent what kind of a person it was who had it—what *his* peculiarities were.²

Mr. Snyder lives with his wife and two young daughters on the family farm, the remnants of the old plantation that was first permanently

settled by Alexander McKesson in 1750. One of Art's dreams is to rebuild McKesson's old two-story, log house (that measured about 30-by-25 feet) and attached kitchen, all of which was destroyed in a fire over 30 years ago.

Born near Fairfield in 1949, Art descends from a long line of carpenters and blacksmiths on his mother's side of the family who emigrated from Germany ca. 1800. His father, Anton L. Snyder, however, labored as a "steam fitter" and helped to build "Site R" associated with Fort Richey near Blue Ridge Summit, Pennsylvania. Art reminisced that when most of his teenaged peers were hot-rodding around the countryside, he was content to hitch up a team of "hay burners" to a spring wagon. Art still recalls that his father thought of him as "a two-hundred year old left-over." In essence, Art is a self-taught carpenter and mason who acquired his skills from observation, imitation and experience, but his motivation was inspired by his late grandmother, Sarah Susan "Annie" (Bishop) Hoffman, who reminisced about "the good, old days," her love of folk crafts, and a way of life that was gone with the wind.



Fig. 2 - Roby House, Fairfield Rd. (Rt. 116), Hamiltonban township. Located about one mile southwest of Fairfield, this home was recently renovated by Art Snyder. A fine example of log house restoration.

Undoubtedly, Mrs. Hoffman instilled in her grandson her love of history and a deep-seated appreciation for anything historical, especially old log houses and their builders, for over the years, Art states that he has developed a keen interest in

the type of architecture that was done . . . previous to the American Revolution . . . and tries to strive for the same quality of craftsmanship. . . .

Art's first experience in log structure restoration and construction began on April Fool's Day 1970 at the age of twenty-one. After a terrible wind storm, Art convinced his father to allow him to repair the family barn, originally a double-crib log structure that had been converted to a bank barn. To Art, the barn, or any old structure, represents

part of the legacy that our fore-fathers left here, and for us to just wantonly tear it down just to get rid of it . . . , to me, [makes] no sense.

Having met Mr. Snyder through a mutual friend during the summer of 1990, I thought he would be the best person to provide insights into eighteenth-century log construction. To glean a rudimentary understanding of early log houses, I visited Art at his "McKesson's Blacksmith Shop" on Tract Road nestled in the shadow of Ski Liberty, south of Fairfield. During our conversation, we often hypothesized how Alexander McKesson might have built his home.

After McKesson arrived on his newly purchased tract in the Marsh Creek settlement in 1750, he would have constructed a crude log cabin to protect himself and his family from the elements while he located water supplies and determined the best sites for his farm buildings. Once he selected those sites, built substantial shelter for his animals, cleared the land and started farm operations to provide food for his family, McKesson then would have contemplated the construction of a permanent dwelling. Although many people believe that most settlers knew how to build log homes, Art feels that the expertise was not common knowledge, that some families, in fact, especially those who had some money, probably hired a "joiner," the eighteenth-century version of the modern building contractor. Moreover, additional help might have come from family relatives also living in the area.

After the house site had been selected, McKesson and/or the joiner would begin work on the foundation and the chimney. This would have



Fig. 3 - J. Lauver House (1858 Map), Bingaman Rd., Franklin township. Situated near the banks of a tributary to Little Marsh Creek, we shall use this structure as an example of log house construction in subsequent illustrations.

taken nearly two years to complete:

You gotta dig the hole [trench]; you've got a lotta dirt there to move. You never realize how much dirt you have until you have to start wheelbarrowin' that out [by] ox-cart or whatever, and then you have all those stones to haul in.

Art recalled a conversation with an old farmer who was building a bank barn in Maryland. When Art asked him the question, "how am I gonna know when I have enough [rocks]," the gentleman replied:

Well, you haul in what you think is enough, then you haul that many more in, and then you have half enough. . . . That was his rule of thumb, and it kindda' works out that way.

After the joiner believed that he had collected enough rocks, the foundation and chimney would be built. Art believes that some joiners threw ballast (loose stone) into the trench to serve as a “French drain,” to prevent the accumulation of moisture from building up and weakening the foundation wall. When I asked Art, from his experience, whether chimneys were interior or exterior in Adams county, he replied that:

you would find right around here—the climate was a little bit warmer—you’d find both; you start gettin’ north of here, its almost exclusively on the inside.

As the laying of the foundation proceeded, trees were cut, usually white oak, for the dwelling’s walls; and pine, poplar, or chestnut for trim, though chestnut is “kind of splintery.” Moreover, trees with very little taper that were between eight to twelve inches in diameter at their thinnest end were preferred. Furthermore, trees were cut during the winter, and at least a year before they were actually used in construction. Of the logs used for constructing the house, Art said:



Fig. 4 - Log House Construction: Step #1, the Foundation. General Rule of Thumb: collect stones. When you think you have enough, double the amount. Then you still do not have enough.

The older craftsman, they did not want timber that was not cut in the dead of winter—when the sap was down. You know what the insects were after?—the sap, the sugar in the sap. Many of those old-timers knew that. After the middle of February, they would not cut any timber. Well, that was a no-no. I heard a lot of old-timers say, when you talk about going there and cuttin' a tree that has leaves on it, man, they'd think that you were gonna upset the whole world or somethin' . . . You wait to . . . the latter part of December or January to cut your timber. You know, it didn't matter if you just wanted a few fence rails. I mean, that just wasn't done, that's all.

Indeed, sometimes the winter weather did not cooperate with timber harvesting. Several years ago, Art recalls, a friend came over to his home to help him cut some trees:

This was, like, in January; we had about fourteen inches of snow on the ground. I really wasn't looking for him that mornin'. He came in that mornin' said, "Heeey! Are you ready to get those logs down from out of the woods?" I said—You're kidding!

Nevertheless, if the log house were to be built to last, the trees had to be cut at the optimum time.

With the foundation completed and the logs properly seasoned, sometimes the summer kitchen was built first "to get [your family] into a better house." Art believes that McKesson built his kitchen first, with the idea that he would add a two-story dwelling at one end. Thus, when McKesson and his family were snug in their new summer kitchen, the foundation of the main house could be built. Splicing two log structures together, however, "took a little finesse":

The way to do that . . . After you're getting to the point where you're going to be putting the rest of your log house up, you just take a crosscut saw and you cut the whole back wall off [of the summer kitchen] and let it fall out . . . [and then] you put in posts and mortice your logs [on the kitchen's side walls] into [the posts] as you lay [the logs of the main house] up, . . .

As logs were needed, the hewing process commenced; this activity changed the rounded native log into a rectilinear timber. First, when the

desired thickness of the finished timber was decided, a chalk line was drawn along the length of the log. Next, using a regular ax, several cuts were made into the log to the depth indicated by the chalk line. The wood between the cuts were

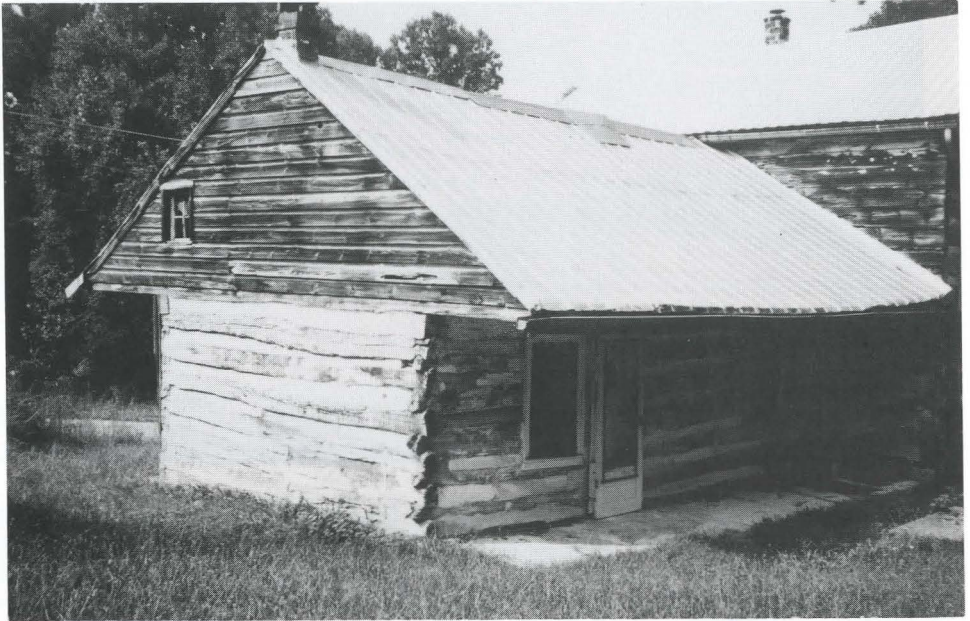


Fig. 5 - Lauver House, Back Building. This structure probably is the oldest section of the dwelling. An analysis of the U.S. Direct Tax of 1798 revealed that the majority of dwellings were one story.

essentially . . . slit off rough, then it was scored down to the chalk line, then taken off with the rest with a broad ax.

The logs, roughly a foot in diameter, would be hewn down to rectangular timbers between six to eight inches wide, with a particular type of corner timbering at the ends formed with adzes as the walls were "laid up." Art estimates that the most practiced joiners probably could hew three, 30-foot logs a day.

However, not every hewn log matched the entire length or width of the house, and sometimes those used as sleepers or summer beams on the first floor were hewn only on one side. The second-floor joists were either hewn or sawed, and passed through the exterior walls, although

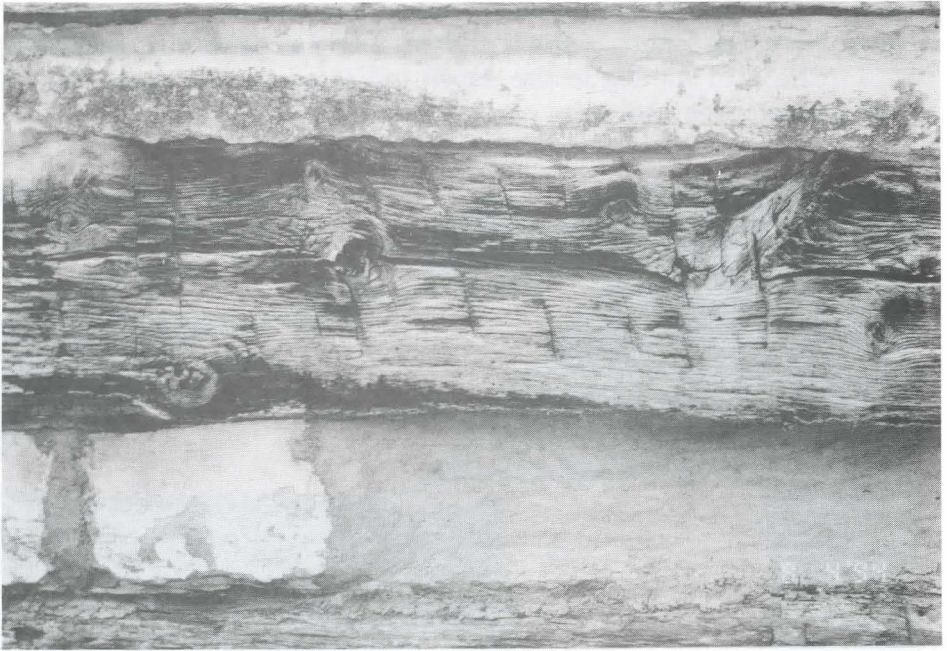


Fig. 6 - Log House Construction: Log Hewing. For a longer lasting home, trees should be cut in the dead of winter and allowed to season for about one year. In the above illustration, adz marks are still visible; the result of the joiner finishing the hewing process. Note paint chipping of plaster that was added on top of the chinking between the logs.

some were fitted into notches in the wall timbers. Shorter timbers were used in the walls to accommodate windows and doorways. For example, early window frames—the lintels, sills and side pieces—were hewn, mortised and tenoned together, and then tied into the log walls with pegs:

Your channels that your sash sets in is part of the piece. The [window] molding is not added on, it is carved out of the same piece of wood.

Today, Art uses hundred-year old planes for cutting beads into moldings, following an original pattern he found during his restoration of the Charles Robey house just southwest of Fairfield on Rt. 116.

Some joiners may have hewn their logs in the woods where they were felled; many logs, however, were shaped next to the construction site, for the chips could be used as chinking, usually added after the walls were

completed. Furthermore, the best clay material used with wood chips to plug up the gaps between the logs was a scarce commodity in Adams county. Art maintains that

you save your mortar, because you have to haul it in here. You do not use the clay that's around your property unless you have pipe clay or something that's really good, [for] this area [southwestern Adams County] is not noted for good clay.

The critical part of any log house's construction is the corner timbering, for "it binds the timbers together, prevents lateral slippage, and bears most of the weight of the entire building."³ Numerous notching types were used in the American colonies, but according to Art

it's what you get used to. There's a trick to cuttin' all of these, . . . but to me the flat notch is the meanest so-and-so notch that ever came down the pike. . . . The saddle notch might be about the easiest. . . . I use the A-notch or the inverted "V."



Fig. 7 - Log House Construction: Chinking. Wood chips, left over from the hewing process, small stones, and clay were used to plug the gaps between logs. Note several wood chips seen between the modern rain spouting.

Indeed, the V-notch was the most popular corner timbering. From their research, Terry G. Jordon and Matti Kaumps concluded in their work *The American Backwoods Frontier* that

The geographical distribution of Midland V-notching provides impressive testimony to the importance of Pennsylvania as a cultural hearth. Very common in the Keystone State, it also occurs from Ontario to Florida, from the southern Appalachians to northern Arizona, the Olympic Peninsula of Washington State and British Columbia.⁴



Fig. 8 - Log House Construction: Corner Timbering. Although there are several types of notching, the A- or inverted V- notch (seen here) is the most common.

Nonetheless, Art has seen several half-dovetail buildings in Adams county, including one which he partially salvaged for building a smaller half-dovetailed, one-story log building on his farm.

With the completion of the exterior walls, the framing for the roof (rafters) was completed on the ground. A numbering system was marked into each timber to simplify its mortise-and-tenon assembly. After the rafters were in place, purlins were secured to them onto which roof shingles or thatching were then attached.

When I asked Art how long it took to complete a two-story log house from foundation to the completed interior, he estimated about three to four years. Nonetheless, Art believes that with American independence from Britain, the motivation to build a quality log dwelling declined and construction time shortened, for the joiners were no longer answerable to the Crown for shoddy workmanship. With advances in lumbering technologies and the ability to produce wood siding economically, mistakes could be covered up.



Fig. 9 - Roby House, Front Facade Detail. Note the mortise-and-tenoned window frames and the ends of ceiling joists protruding through the plaster chinking.

The Unspoken Language of Log House Construction.

Many people tend to fall into the cultural trap described in 1928 by Roger Hincks as the “Superstition of the Antique”:

. . . there comes a moment in the history of every civilization when it turns its back to look at the ground it has covered . . . [and] experiences an overwhelming desire to build an artificial paradise out of the ruins of the past. The forms in which this desire is satisfied are explicit and tangible: no sophisticated *recherche du temps perdu*, but an almost avaricious clutching at the material relics of yesterday.⁵

Tragically, the artifacts with the most longevity—houses, mills and barns—are the ones that the general public seems to “clutch at” the least. Possibly due to their size (they are too big for a museum), many old dwellings have been razed, notwithstanding their historical, archaeological, or anthropological significance, strictly for monetary and aesthetic reasons. Preservationists constantly do battle with developers to save those that remain.

However, as with all human-made objects, their design and the physical act of their construction reflect something of the psyche of the people who built them and the society in which they lived. Simon J. Bronner in *Grasping Things* writes that houses are things that enclose us, behind whose walls humans hide and build their own interpretations of reality through material possessions and decorations:

The house is a community of relations inside and out. In shape, material and design, the house is an expandable, manipulable skin announcing status being grasped at and values being held.⁶

Furthermore, reflecting on Henry David Thoreau’s experiences at Walden Pond during the period 1845-47, Bronner states that:

Working from the foundation, Thoreau found that the house is man, his body and senses, working in relation to his social and natural environment.⁷

In one sense, Thoreau attempted to rediscover nature, which he believed American society had lost through the Industrial Revolution.

Though at face value an eighteenth-century log house appears to be nothing more than wood, stone, clay and mortar, it reflects a society and a reality based on the monumental human effort required to transform and control Nature. The gathering and quarrying of stone for the foundation, the felling of trees and hewing their rounded and irregular forms were followed by a reorganization of these entities into an ordered, rectilinear, symmetrical, man-made reality reflecting humankind's interpretation of civilized society.

In pre-Industrial America, the physical efforts of man and domesticated animals alone challenged Mother Nature to see who would dominate. The felling of trees, the clearing of farm land, the harnessing of horse and oxen power, the damming of streams—all reflect man's attempt to subdue the natural environment and to impose an agrarian atmosphere in which he could dwell. The farmer, the miller, and especially the joiner took the raw materials gleaned from (what appeared to them to be) an unstructured, haphazard environment and transformed them into their impression of an ordered utopia.

Likewise, the act of hewing timbers for his home suggests that, in some ways, Man mocked Nature by "killing" the trees, "skinning" their carcasses, and displaying them as trophies for all to see. Like the forager or fisherman home from the hunt with his kill or the proud Roman conqueror triumphantly home from the war displaying the vanquished, the builder of log structures recalled or evoked the daily rituals of an ancient hunter-gatherer society.

However, the battle to rule over Nature, to forge a dwelling out of the wilderness of Adams county, was not easy, for, as we have seen, Man's "conquest" of the environment took up to four years to complete. The longer a man took to conquer Nature, possibly the sweeter was his feeling of victory. Each phase of construction reinforced Man's ego as he slowly and methodically conquered the environment, surprising Nature with another *fête accompli*.

As applied to log dwellings, Hincks's "superstition of the antique" may define nostalgic reminiscences of earlier or "simpler" times when the individual felt in command of his own destiny; he wrestled to control his environment, natural and historic, manipulating forms he preferred. Humankind oft-times won those battles. Spiritually reflecting on his past, Man may have seen himself as evolving closer to God, whom the Christian Bible celebrates as creating the heavens and the earth in six days. On the frontier, Man created his own universe—his home—in four years.

With the Industrial Revolution, however, Man developed machines to conquer Nature, and advances in building technologies required less

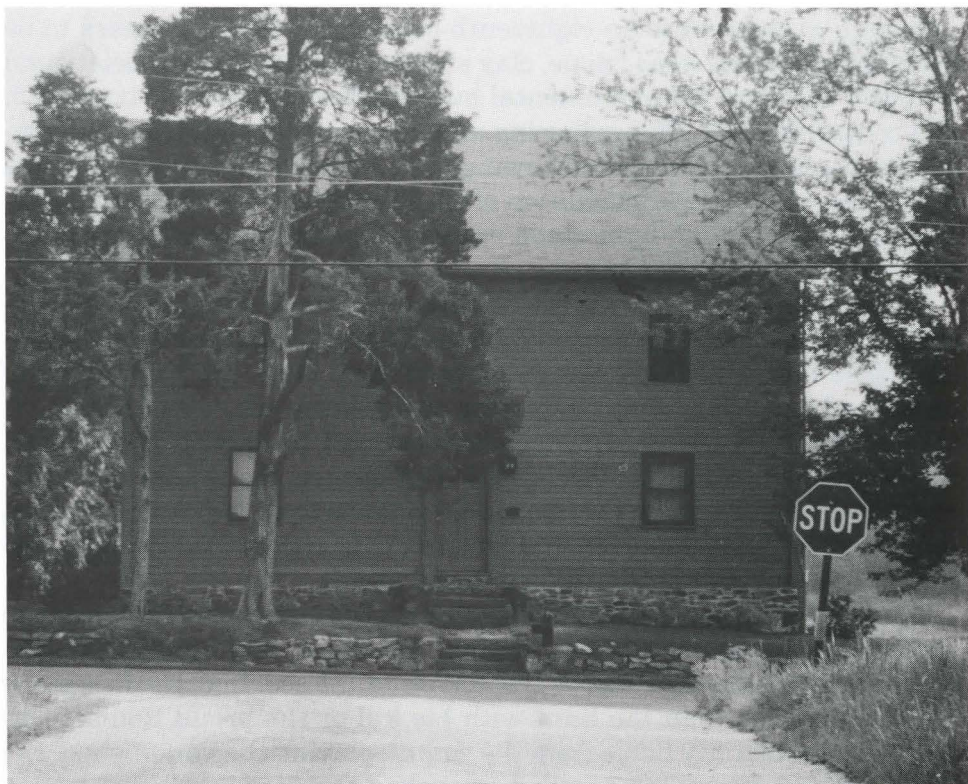


Fig. 10 - Wirts House, Shrivvers Corner Rd. (Rt. 394), Straban township. This dwelling is a fine example of a log dwelling that has been covered with wood siding. Placed on the National Register of Historic Places several years ago, the nucleus of this building may date as early as 1765.

skilled labor and time to produce a dwelling. Instead of log dwellings which symbolized Man's victory over the environment, they came to be viewed as old-fashioned and crude, reflecting Man's position lower on the evolutionary and spiritual scale. Indeed, structural components became more rectilinear or unnatural in shape. Weatherboarding (siding) was added to log structures for practical reasons—to protect the old logs from the weather, provide some insulation from cold temperatures, and reduce the need for seasonal repairs to the chinking between the logs. However, the weatherboarding of a log house could also reflect humanity's subconscious need to hide remaining physical references to the crude natural environment and its less enlightened, and less civilized, past. Indeed, "people identified with what they produced . . . [whereas today, they are] geared toward consumption . . ." of man-made objects several processes removed from their natural components.⁸

Thus, with scientific progress, mankind simultaneously began to lose touch with his natural surroundings. Increasingly, humankind's challenge, then, was not to manipulate Mother Nature's forms, but to mold more complicated man-made ones, which in turn, further alienated him from Nature. Through his adventure at Walden Pond, Thoreau, in part, realized that Man *had* lost touch with the natural environment, that his dwellings were taking on a life in themselves and beginning to manipulate human interactions. "But lo! man has become tools of his tools," Thoreau wrote. Today, how many people escape from the stark harshness of the universal reality by retreating to their homes, rigged with high fences and iron gratings, wherein behind walls decorated with esthetically pleasing paintings and photographs they switch on their televisions, VCRs and computers to immerse themselves in a multitude of "virtual realities" that often skew their concepts of the universal reality?

Over the past 200 years, as Man tried to conquer Nature, she has surreptitiously counter-attacked, threatening humankind. Pollution, acid rain, global warming illustrate how Nature is responding to centuries of Man's quest to command and shape his reality.

Although many people may respond that log houses remind us of a simpler time, log structures may also mark the beginning of an era when humanity began to remove itself from its ecosystem and started down the road to the polluted reality of today. Indeed, this hypothesis could explain why many people are ambivalent over the preservation of log buildings, for subconsciously the structures may remind us of where humankind made a wrong decision—to conquer Nature rather than trying to live with her.

Notes

1. When the Adams-York county boundary was laid out in 1800, it coincided with only one existing line—Beaver Creek at the east end of Berwick township. Small sections of Monaghan and Warrington townships northeast of Latimore and Bermudian creeks became part of Huntington township, which lost a tiny parcel by the confluence of Bermudian Creek and Mud Run to York county. Sizable tracts of Mannheim and Heidelberg townships also were partitioned and became Conewago township of Adams county in 1801, while Reading township lost a considerable area to York county. Thus, to simplify my analysis, those areas of Warrington, Monaghan, Mannheim and Heidelberg townships were not counted, while those in that portion of Reading township that remained in York county were tallied.

2. Unless otherwise specified, Art Snyder's quotations were recorded during an interview conducted by the author at Mr. Snyder's home at 1145 Tract Road, Fairfield, Pennsylvania, on the evening of 9 April 1991.

3. Terry G. Jordan and Matti Kaups, *The American Backwoods Frontier: An Ethnic and Ecological Interpretation* (Baltimore: Johns Hopkins University Press, 1989), p. 141.

4. *Ibid.*, pp. 143-144.

5. Roger Hincks, "Superstition of the Antique," *Museum*, 2 (1928), 10, as quoted by Simon J. Bronner, *Grasping Things* (Lexington, KY: The University Press of Kentucky, 1986), p. 179.

6. Bronner, *Grasping Things*, pp. 23-25.

7. *Ibid.*

8. *Ibid.*, p. 4.