

Architectural Characteristics of Houses in Lancaster County, 1798

By Arthur C. Lord

One of the rewards of living in an area of the nation which was settled before 1800 is that this area is often blessed with excellent examples of colonial and late 18th Century architecture. Lancaster County has many such examples which illustrate that our forefathers not only built well, but built with good taste.

This paper is about houses; houses located in Lancaster County during 1798. While not well defined in the dictionary, a home, to the writer, is the residence of a family, whereas a house is simply a building. This paper is about houses, not the people who lived in them and made them a home.

The objective of this paper is to examine in detail, the characteristics of these houses in order to determine their architectural features and to determine if there were regional differences in these characteristics between the Borough of Lancaster, and the rural townships in the year 1798.

There has not been a great deal of factual information about the architectural character of this early period and what is available seems too often to be in conflict. Also, the few existing houses available to be studied may well not be representative of that era because the literature of that period is all too often filled with details of the fine houses of the well-to-do farmer/lawyer/merchant, in which the author had been a guest and does not contain the information about the small houses of the less well-to-do workers that they had passed on the

way to his host's house. It was suspected that the Wheatlands, Rockfords, and the hundreds of other fine stone or brick houses which remain, are only a small percentage of the houses that existed in this Colonial and Late 18th Century period; these being the exception rather than the typical house.

Many people interested in this subject received their first information from reading the county histories and other secondary sources, and are subsequently impressed by our cultural heritage. "These houses were generally built of stone, some of them with dressed corners, two stories high, with pitched roof, and cornices run across the gables and around the first story." (Ellis and Evans, p.349) That "they were generally built of stone. . ." even when discussing the house which replaced the first log shack, describes only a few houses which were owned by the more wealthy landowners of the area, but surely not that of the common man.

A better vignette of the houses of this period comes from several other early writers. A deed for the sale of lots in the James Hamilton tract, in the Borough of Lancaster, in 1734 states; "The purchaser . . . should make, erect, build, and furnish on each and every lot, at their own cost and charge, a sufficient dwelling house of the dimensions of sixteen feet square at least." (Fletcher, p. 377) Benjamin Rush wrote in 1789 that ". . . the first dwelling house upon the farms are small and built of logs." (Rupp, pp. 12 & 13) Thomas Anbury observed in Lancaster County in 1778 that "Some of the farm houses are built of stone, two stories high and are covered with cedar shingles." (Anbury, p. 245) William Cobbett in 1817 described Lancaster Borough by saying

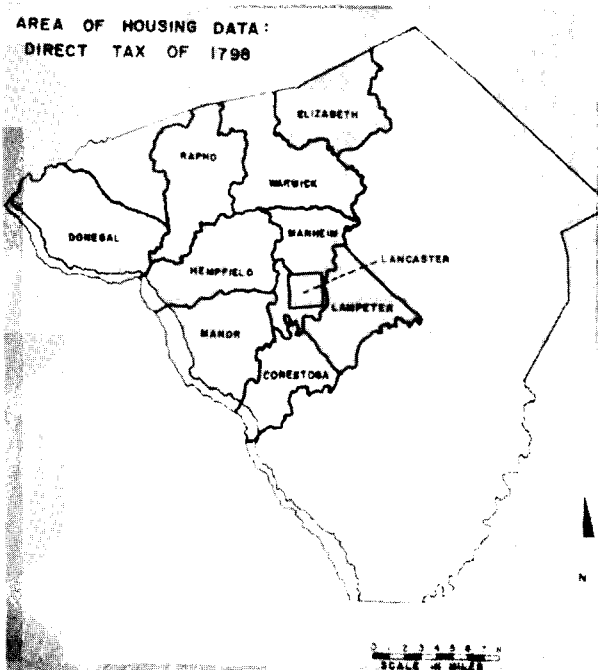


Fig. 1. Area of Housing Data. The Direct Tax of 1790 covered most of Northwestern Lancaster County and all the Borough of Lancaster.

"Come to Lancaster . . . a very pretty town. Lancaster is a very pretty place. No fine buildings; but no mean ones. Nothing splendid and nothing beggerly." (Cobbett, p. 46) While these writers seem to give us a better understanding of the houses of this period, they supply us at best, with generalizations, and contain very few examples of specific data. One might well question how much social and economic prejudice they contain. Can data be found that would give us exact information on the houses of Lancaster County for this period?

There is a source of data for the late 18th Century houses of Lancaster County. The United States Direct Tax for 1798, included data on houses specifying dimensions, stories, building materials, number of window and panes of glass per window. Unfortunately, only the tax report for the Second District is available, and even that is incomplete. House data is available for the Four Wards of Lancaster Borough, Conestoga, Donegal, Elizabeth, Hempfield, Lampeter, Manheim, Manor, Rapho, and Warwick Townships. The lists for Lancaster and Mount Joy Townships, also in the Second District, are missing as well. The list then does include the entire Borough of Lancaster, as well as fifteen of the current townships of the county, as several have been subdivided since 1798.

While all would agree that it would be nice to have data for the entire County, we are very fortunate in that we do have a good sample area to examine. Can one determine what the houses were like, and if there was a regional pattern of architecture in 1798? We have available the complete Borough of Lancaster, townships contiguous to the Borough, and outlying townships, which are predominately rural which is a good cross section of the county.

Methodology

*T*he methodology used for the study of the houses of 1798 was basically simple. The data on 2779 houses was totaled first, for the nine 1798 townships and the Four Wards of the Borough of Lancaster, and then for the whole study area. For each enumeration district the averages and frequencies for house size, number of stories, building materials, windows, and panes of glass per window were established. The townships and wards were compared to the sample area averages and frequencies, as well as to the other townships and wards. It was then possible to analyze the patterns of housing characteristics for a part of Lancaster County. We can therefore, establish what the common house was like in the last few years of the 18th Century and, what the differences were between urban and rural areas of the County.

Hypothesis

*I*t has already been stated that there were two basic objectives in the research project. The first was to determine what the houses in the late 18th

Century were really like and secondly to determine if there were regional differences in these characteristics.

The basic hypothesis to be proved by the research was that the normal, or average house of the late 18th Century was not a large house, two stories high with many windows and built of stone but rather, a much smaller house, one story high, with few windows and built of logs. This then, would have been the house of average and less well-to-do families of the County as these families would greatly outnumber the affluent, who would be building the large stone houses. Part of this misconception seems to be based on the fact that large stone houses are all too often, the only remaining houses for people to see and study, because the early, more plentiful, small log houses have either been replaced by the common brick or frame house, or have been covered up by siding. Even the fabulous collection of Lancaster house paintings and drawings, (by David McNeely Stauffer), circa 1879-1882, few homes of the poor are illustrated.

The second premise is that a city or a borough, such as Lancaster was until 1818, will reflect a different attitude toward house architecture. This is brought about because it is more in tune with changes brought about by increased technology and by current fashions than will the more rural and traditional outlying districts. The hypothesis being presented is that, Lancaster Borough would have a higher percentage of its houses built of bricks and frame reflecting the Philadelphia image, be more often multistoried in order to fit the narrow urban lot size, and have more windows with glass than the more traditional and less affluent rural areas. Therefore, the Direct Tax of 1798 provides an excellent opportunity to establish what the houses were like in the late 18th Century because it can be based on factual data not on someones misconception.

Characteristics of Houses in 1798

Some 2779 houses are described for the nine townships and Borough of Lancaster in the year 1798. These houses reflect architectural characteristics which had accrued during the 18th Century, not just the trends in 1798. By 1798, there were many pioneer small old log houses in poor condition, as well as many new ones, constructed a few months before the tax. The study therefore, reflects not 1798 but rather, all houses built in the 18th Century.

These houses reflect the cultural heritage of Lancaster. A heritage which was first brought from Europe by several nationalities which was then modified by the people of other nationalities who became their neighbors. Modification would also occur as a result of the new environment in which these people found themselves. For example, building materials would differ in type and in cost. The wealth of the builder would be a factor as to whether a settler would build a two story stone house or a small log house. Also, the type of house

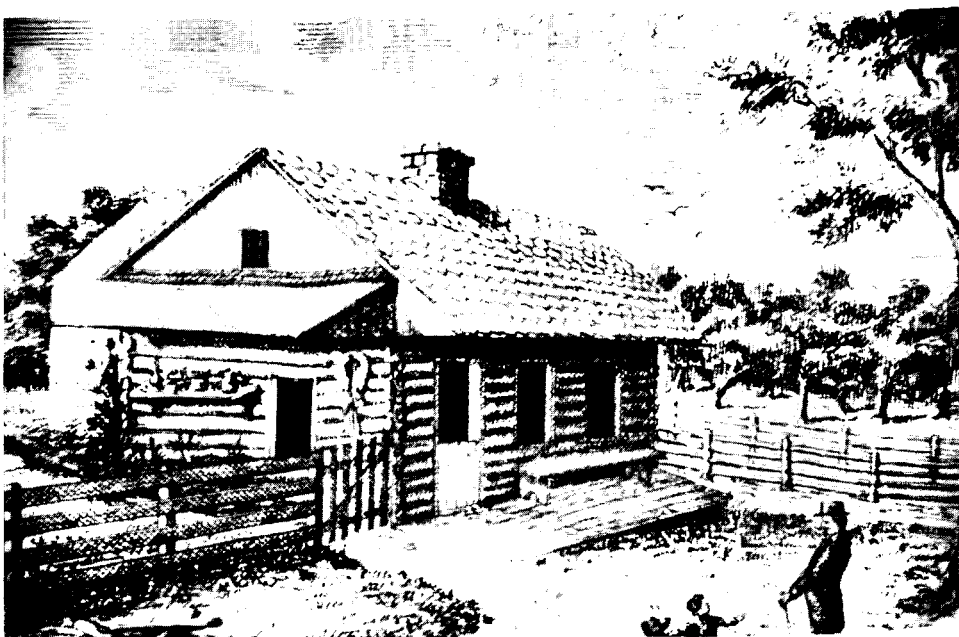
suitable for the foothills of the Alps would not be suitable for Lancaster's hot humid summers. This interaction of human and physical environmental factors, would result in a type of house which would become traditional in style by the 19th Century. There is no doubt that there was a large range in architectural style in the 18th Century based on Western European cultural heritage.

House Size

The Direct Tax for 1798 listed the dimensions of some 2775 houses in the sample area. These houses averaged 29.5 feet in length and 23.3 feet in width, containing 687.4 square feet per floor. This is not a very large house, but was the average for the sample area. It must be remembered that half was SMALLER and half were larger than the average. As one might expect, the house built of stone was the largest type found with a length of 33.7 feet and a width of 27.4 feet and 923.4 square feet per floor. This was usually the typical two story "Colonial House" built in the Georgian or Federal manorial style that is still frequently seen throughout the County.

The brick house was the second largest house type found. These brick houses were nearly as large as the stone houses and averaged 34.4 feet by 25.1 feet for an average of 863.4 square feet. It was observed that many of the rural brick houses were more square in shape than those in the Borough, where the

Pine Farm Home of Christian Stauffer. Illustration of the small log house typical to Lancaster as painted by David McNeely Stauffer. Courtesy of The Heritage Center of Lancaster County.



narrow lots produced houses shaped with narrow frontage and greater depth. No data was kept on this phenomenon but this characteristic was observed in passing.

The log house was much smaller than the brick house, with average dimensions of 27.0 feet by 21.8 feet containing 588.6 square feet per floor. While the literature is filled with theories that the size of available logs determined the size of log houses, the size of some of the log houses in the sample area was very large, but most were small.

The smallest average size house in the sample was the frame, or wooden, house. While few in number, these houses averaged 27.3 feet by 20.8 feet and contained 567.8 square feet. Even though they are about the same size as the log houses, there weren't the variety of sizes as found in the log houses.

Our first generalization on Lancaster County houses is that they were small houses. One would expect the reason to be that in these early years of settlement, few people would be able to afford large homes. There would be some people of the more wealthy class, that could, and did, build the larger more impressive houses. Stone and brick houses being the larger, and log and frame being the smaller.

SIZE OF LANCASTER COUNTY HOUSES

Stone Houses	33.7' x 27.4'	923.4 sq. ft.
Brick Houses	34.4' x 25.1'	863.4 sq. ft.
Log Houses	27.0' x 21.8'	588.6 sq. ft.
Frame Houses	27.3' x 20.8'	567.8 sq. ft.

Average for 2775 examples with dimensions:

29.5' x 23.3'

687.4 sq. ft.

(Fig. # 2)

Building Materials

The basic hypothesis to be tested was, that the common house of this area in the late 18th Century was not the large stone house, but a much smaller log house, because logs were a more common and cheaper building material. This was found to be true as some 1614, or 58.1%, houses of the sample area were built of logs. These log houses were listed in some townships as round and squared logs, or as wood and/or wooden, but were distinct from frame in all cases. The 1614 log houses referred to are the total of all log houses. When there was a distinction made between round log and square log, it was observed that the squared log houses greatly outnumbered the round log houses which were very small and always single story while some of the squared log houses were two stories high.

Of the three other main building materials listed, stone was the next most

common. Stone houses made up 559 of the houses sampled, which was 20.1% of the total. Many of these are the only 18th Century houses that we are familiar with, as many of them are still standing throughout the County. An interesting parallel is found in the barns of 1798. For approximately the same sample area, stone barns were nearly the same percentage as that of houses, with 21.2% being built of stone. (Lord, see Bibliography) At the end of the 18th Century, approximately one fifth of the houses and barns were built of stone.

The brick house was more popular during the late 18th Century in Lancaster than most of the literature seems to indicate. There were 265 listed in the tax list, which accounted for some 9.5% of all houses.

The last major building material used for 18th Century houses was that of wooden frame construction. There were some 142 examples of frame houses in the sample, which accounted for 5.1% of the total houses. Little literature was found on frame houses in this area. When a house was listed as frame in 1798, it is taken to be a type of construction called braced framing, which is a heavy timber frame, or sometimes referred to today as barn framing. The balloon frame house built with two-by-fours, does not become a factor until the beginning of the Victorian period, c1837.

As indicated in Figure 3, there were several other combinations of building materials found in the records. Many of these may represent an addition built onto the original house at a later time. The five part brick and the brick and frame, could be half timber or brick filled frame. The house that produced the greatest amount of speculation is the Lampeter Township house that was listed as a 30 by 27 foot, one story, Mud-Walled house. The where, when, why questions are many, but all lack answers.

The list of materials used for house construction in 1798, clearly indicates that there were a great variety of building materials used, as well as a lot of individuality found in our early settlers. A traditional architectural style had not yet been established, and traditional patterns were to come.

BUILDING MATERIALS OF LANCASTER COUNTY HOUSES		
Log Houses	1614	58.1%
Stone Houses	559	20.1%
Brick Houses	265	9.5%
Frame Houses	142	5.1%
*Other Materials	199	7.1%
	2779	100.0%

(Fig. # 3)

*Other materials include: 88 Log and Stone, 49 Brick and Frame, 26 Log and Brick, 11 Stone and Brick, 6 Log and Frame, 5 Part Brick, 4 Stone and Frame, 2 Brick Filled Frame, 1 Stone, Brick, and Frame, 1 Brick, Log, and Frame, 1 Brick, Stone, and Log, 1 Mud-Walled, 4 Material Unknown.

Number of Stories

In the introduction to this study it was stated as a basic premise, that most of the houses in 1798 would be single story. It was found that some 2043 houses, 73.5% were of one story. Somewhat suprising, was the number of multi-storied houses. There were 713, 25.7%, two story houses and 19, 0.7%, three story homes in the sample area.

Two story houses were found in log, stone, brick, frame, and other materials, though they were more common with the stone and brick houses. With the three story houses, 18 of the 19 were houses built of brick while the nineteenth was of brick and stone.

NUMBER OF STORIES HIGH OF LANCASTER COUNTY HOUSES

One Story Houses	2043	(73.5%)
Two Story Houses	713	(25.7%)
Three Story Houses	19	(0.7%)
Sample Total	2775	(99.9%)

(Fig. # 4)

Name of Proprietor	Description of the House	Dimensions	Material	Number of Windows	Value
Light's Sign of the Ship Tavern	One building, 29 by 32 ft.; built of brick; two stories high; six windows of 18 pane, seven of 24 pane, and two of 12 pane; and valued at \$1700.	29 by 32	brick	18	\$1700
...

Example of The Tax Records. A section of a page of the Direct Tax of 1798 covering the Northeast Ward of Lancaster Borough illustrating the property of Major John P. Light's Sign of the Ship Tavern. One building, 29 by 32 ft.; built of brick; two stories high; six windows of 18 pane, seven of 24 pane, and two of 12 pane; and valued at \$1700.

The common house of 1798 clearly reflected the pioneer characteristics of the first century of settlement in Lancaster. The average size house was approximately 30 by 24 feet and slightly less than 700 square feet in area. Almost 60 percent of all houses were still log, and almost 75 percent were one story high.

The most common house in the sample area was one constructed of logs. This log house averaged 27 by 22 feet and most (88.2%) were one story. This is then the most common house of 1798, a simple one story log house, which was the home of the pioneer Lancaster County resident at the end of the first century of settlement. There were also many houses with most impressive characteristics which were the homes of the people with greater wealth. These were stone and brick homes, two or three stories high, with many windows, and many panes of glass per window. These impressive homes made up only a small percentage of the houses in the sample area. While stone houses and brick houses totaled 29.6% of all houses, many were small houses and of one story.

The real problem is that these large stone and brick houses are the ones that are readily found today. These are the ones we all admire as a part of our cultural heritage. The log houses, which were once so common, are not as well known. In the 19th Century many were abandoned when the new frame or brick house was built while others were covered over with different materials and are hard to identify today. Fortunately, people are becoming proud of the log house in which they live and the old logs are now being exposed again so we are able to appreciate them as well.

The Windows of The 1798 Houses

When the study began, there was no idea that anything would be done with the data on windows in the 1798 Tax and in fact, the township of Conestoga was redone to include the data on windows. The reason was that an article appeared in the local newspaper assuring the readers that one could identify an 18th Century house by the twelve pane six over six window. THE HANDBOOK OF LANCASTER COUNTY ARCHITECTURE: STYLES AND TERMS assures us that twelve over twelve and eight over twelve represent the c1750-1800 period and the six over six the c1800-1900 period. (Handbook, p. 23) Here was an opportunity to test this hypothesis through the Direct Tax of 1798. What was the pattern of windows and panes of glass per window in this period?

An assumption was made that only windows with glass were included in the tax merely because it was a window tax. There must have been other windows covered by wooden shutters as several small log houses listed no windows

at all. In a few cases where a house can be identified, and still stands, the number of windows listed in the tax are less than the number of window openings today.

There is no distinction between sash and casement windows or as to fixed or double hung. The only detail, except for the number of panes per window, is that some are listed as leaded or leaden. We might assume that the leaded would be the older casement windows consisting of smaller pieces of glass.

The Number of Windows with Glass

The number of windows with glass varied a great deal within the sample area. There was data available on some 2758 houses which had at least one window with glass. There was no information on which floor of a multistory house these windows occurred.

One story houses averaged 4.4 windows per house. While not investigated for the total, a sampling illustrated that these windows were usually four, six, or twelve panes of glass per window with twelve being the most common.

Two story houses averaged 12.3 windows per house. This average was the result of rural townships usually having a greater number of windows and the four borough having less. The difference is without doubt, the result of the row houses being built in the Borough of Lancaster having few or no windows on the sides, and the houses in the townships having windows on all four sides.



Sign of the Ship Tavern. Illustration of the Sign of the Ship Tavern in c1880 by David McNeely Stauffer when it was the home of Wm. P. Atlee. The building stands today on the Northwest Corner of East King and North Lime Streets. Courtesy of the Heritage Center of Lancaster County.

All 19 three story houses were very large town houses found in the Borough of Lancaster. They averaged 19.1 windows per house, which matches the investment made in these large, brick homes.

WINDOWS WITH GLASS PER HOUSE	
One Story Houses	Averaged 4.4 windows
Two Story Houses	Averaged 12.3 windows
<u>Three Story Houses</u>	<u>Averaged 19.1 windows</u>
All Houses (2758)	Averaged 6.5 windows

(Fig. # 5)

The Number of Panes of Glass per Window

In spite of the usually accepted generalization that one can recognize an old house by the number of panes of glass per window, the study found a great variety in the number of panes per window. There were twenty-five different combinations of window panes identified for the Lancaster sample area in 1798. Roughly 50% of the windows were of the twelve panes per window pattern. This type was probably a six over six sash type, which has become an identifying characteristic of the c1800-1850 period. The question seems to be, can 50% be considered characteristic of housing in a period?

Of the fifty percent not six over six, the most commonly found combination was a fifteen pane window which could have been the six-over-nine type. The twenty-four pane window was the next in popularity followed by twenty panes, eighteen panes and finally leaded was the sixth most common. The remaining nineteen different combinations, and those examples where the number of panes was not indicated, accounted for the final 11.4%.

PANES OF GLASS PER WINDOW	
12 panes of glass per window	50.2%
15 panes of glass per window	17.2%
24 panes of glass per window	8.5%
20 panes of glass per window	4.5%
18 panes of glass per window	4.3%
Leaded Windows	3.8%
Other Combinations or Unknown	11.4%

(Fig. # 6)

The common window of the sample area for the years of the 18th Century in Lancaster would be difficult to generalize on. Much would depend on whether the house was in the Borough or in a rural township, whether the house was one or multi-story, or whether the house was log or of some other building material. The six over six, twelve pane, window was the most common and was found on

half the windows in the sample area. With twenty-five combinations it would be very difficult to generalize to the degree that any style was diagnostic to the period.

Regional Differences in House Characteristics

Did regional differences exist? Can regional differences be identified? What were the regional patterns in 1798 in the characteristics of Lancaster houses? When the enumeration districts for 1798 are examined, it can be seen that all four wards of the Borough of Lancaster are available and are representative of a small inland town, soon to be city, of this period. Remember William Cobbett called Lancaster in 1817 “. . . a pretty town . . . no fine buildings; but no mean ones. Nothing splendid and nothing beggerly.” (Cobbett, p. 46)

Five of the nine townships can be classified as contiguous, as they touch or nearly touch, the Borough of Lancaster with only Lancaster Township between. Manheim, Hempfield, Manor, Conestoga, and Lampeter were as suburban then, as now in many ways, as they were near the trade and social center of the County as well as within easy commuting distance of Lancaster Borough. Many of the large and well known examples of housing architecture are found in these townships. Here space wasn't a problem and the financial base of rural mills, furnaces, and large farms produced a number of large well built houses.

The remaining four townships complete the sample area. These four townships; Donegal, Elizabethtown, Rapho, and Warwick are all north or northwest of the Borough of Lancaster. These four are all found five to ten miles away from the economic and social center of the county and are well away from the center of new architectural ideas as well. The question to be answered is: are there differences that can be identified between these regions?

As can be seen from figure 7, the distribution of houses in these three regions range from a low in the Borough of Lancaster, 709 houses or 25.5%, to 983 and 35.5%, for the Outlying Townships, and finally to a high of 1087 and 39.1%, for the Contiguous Townships. It was surprising to find that there were 271 more houses in the Outlying Townships than in the Borough of Lancaster at this time.

SAMPLE GROUPINGS OF LANCASTER HOUSES

Borough of Lancaster —	709 houses (25.5%)
Northeast Ward	165 Houses
Southeast Ward	191 Houses
Northwest Ward	237 Houses
Southwest Ward	116 Houses

Fig. 7 continued on next page

Contiguous Townships —	1087 houses (39.1%)
Conestoga	137 Houses
Hempfield	258 Houses
Lampeter	293 Houses
Manheim	147 Houses
Manor	252 Houses
Outlying Townships —	983 houses (35.5%)
Donegal	291 Houses
Elizabethtown	46 Houses
Rapho	320 Houses
Warwick	326 Houses

(Fig. # 7)

Regional Differences in Building Size

It was hoped that in order to support the regional concept, there would be a large range in the dimensions of houses in the study area. This was not the case, as the houses were surprisingly similar as to the average dimensions.

A comparison of the relative sizes of the houses in the sample area by region indicates that the region with the largest average size house was the Contiguous Townships. The Contiguous Townships houses averaged 727./sq. ft., 5.8% larger than the sample area's average. The Outlying Townships average size house was almost the same as the sample area's average, and the Borough of Lancaster's houses were the smallest, averaging 9.1% less than the sample area average, 686.5 sq. ft.

In summary, Lancaster Borough's houses were the smallest in area as a result of the smaller lot size. The Contiguous Townships were the largest in area, and the Outlying Townships were nearly average in size.

BUILDING SIZE BY REGION

Lancaster Borough	29.2' (- 0.3') x 21.4' (- 1.9')
Contiguous Townships	29.8' (+0.3') x 24.4' (+1.1')
Outlying Townships	39.2' (- 0.3') x 23.5' (+0.2')
Sample Area Average	29.5' x 23.3'
Lancaster Borough	624.9 sq. ft. (9.1% less than ave.)
Contiguous Townships	727.1 sq. ft. (5.8% greater than avg.)
Outlying Townships	686.5 sq. ft. (0.1% less than ave.)
Sample Area Average	687.4 sq. ft.

(Fig. # 8)

There were regional differences in the percentage of houses that were one, two or three stories high. As with size, the differences were minor, but identifiable. The Outlying Townships had the highest percentage of one story houses averaging 1.6% higher than the sample area average. They also had the lowest percentage of multistoried houses containing 1.6% less than the sample area average. The Borough of Lancaster ranked lowest in one story houses, specifically 1.2% less than the average. It was also the highest in multistoried houses containing more than average, and it contained all nineteen examples of three story houses. The Contiguous Townships fell between Lancaster Borough and the Contiguous Townships with 0.6% less one story and 0.6% more two story than the sample average.

The obvious reason for the higher percentage of multistoried houses in the Borough, is that of the higher cost of land, especially front footage on the streets, caused many to achieve the square footage needed in a home by going to second and third stories. There may have also been a social prestige in multistoried houses. It must be remembered that there were still many small, log, one story houses in the four square mile Borough at this time, which were the homes of the workers with low incomes. These were probably the older homes, whereas the brick two and three story houses were the newer homes of the area.

The lower percentage of multistoried homes in the Outlying Townships can be explained by the unlimited space and a less sophisticated architectural awareness. There is a greater problem with construction methods for multistory houses built of stone and log which were more common in the Outlying Townships, than for the brick houses in the Borough. The fairly large number of two story homes in the Outlying Townships might be a surprise to some, but as there were many industrial water power sites in the rural area than in the Borough and these well-to-do mill owners could afford to build what they wanted as a house. The Contiguous Townships were more like the average, having influence from the urban center but, not the area restrictions.

In summary, in the Borough of Lancaster where land value was a factor, we have the higher percentage of multistoried houses while the Outlying Townships have the least because of a lack of land restriction. Architectural sophistication and other cultural values might well have been a factor as well. All nineteen three story houses in the sample being located in the Borough only adds to the above conclusion.

HEIGHT OF BUILDING BY REGION

	One Story	Multistory
Lancaster Borough	513 (72.4%) - 1.2	196 (27.6%) +1.2
Contiguous Townships	792 (73.0%) - 0.6	293 (27.0%) +0.6
Outlying Townships	738 (75.2%) +1.6	243 (24.8%) - 1.6
Sample Area	2043 (73.6%)	732 (26.4%)

(Fig. # 9)

Building Materials by Region

In the discussion of building materials, only four major categories were considered; log, stone, brick, and frame. These were the only types found with more than five percent of sample, and these four accounted for 92.8% of the total. The table on building materials (Figure 10), makes a comparison of the percentage of houses constructed of a particular building material to that region's percentage of all houses. Theoretically, if a region has 25% of all houses, then it should have 25% of all log houses. Deviations from the regional percentages are expressed as a plus or minus.

Lancaster Borough shows a very clear pattern with log and stone houses being 9 and 12 percent respectively under the area average, while brick and frame are 45 and 61 percent greater than the sample area average. Both the Contiguous Townships and the Outlying Townships show a complementary pattern with log and stone being 3 and 10 percent higher than the sample and brick and frame being 20 and 32 percent lower than the sample area average. Size and number of stories did not reflect great regional differences, but building materials show a great range from one region to another.

An interpretation might be that stone and log houses, and even combinations of stone and log, were much more common in rural areas where these materials were more readily available and therefore were the most economical buildings to erect. The well-to-do miller and/or farmer would build the large stone houses while the poorer, small farmer and village dweller would be satisfied with a log house. In the Borough, brick and frame were significantly higher in number. It might be assumed that brick and lumber would be readily available and because it is produced near to the Borough significantly lowering the cost of transportation. By this time, Philadelphia and other coastal port cities were being built of brick. The fact that regional centers such as Lancaster would consciously follow the style set by the leading cities, comes as no surprise because brick was both more stylish and safe from fire than the older log houses. Brick-yards were found in and near the Borough during this period, therefore we find brick replacing log as a building material in the Borough of Lancaster.

The frame, similar in size to the log house, seems to have been an inex-

pensive replacement for log in the boroughs and cities and was taxed at a much lower rate than brick or stone.

BUILDING MATERIAL PERCENTAGES BY REGION

Lancaster Borough (709 Houses – 25.5%)

Log Houses	234	14.5% of all log houses	- 9.0%
Stone Houses	71	12.7% of all stone houses	-12.8%
Brick Houses	187	70.6% of all brick houses	+45.1%
Frame Houses	123	86.6% of all frame houses	+61.1%

Contiguous Townships (1087 Houses – 39.1%)

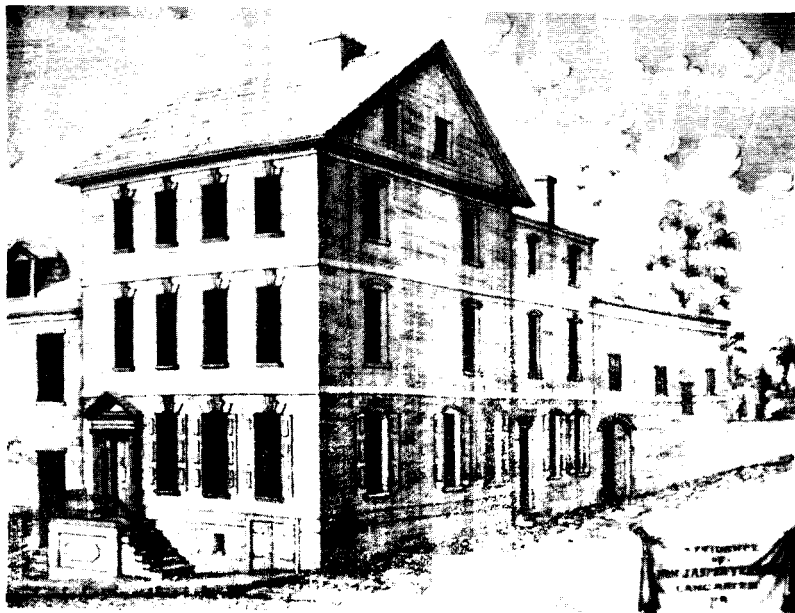
Log Houses	692	42.9% of all log houses	+ 3.8%
Stone Houses	273	48.8% of all stone houses	+ 9.7%
Brick Houses	51	19.2% of all brick houses	-19.9%
Frame Houses	14	9.9% of all frame houses	-29.2%

Outlying Townships

Log Houses	688	42.6% of all log houses	+ 7.1%
Stone Houses	215	38.5% of all stone houses	+ 3.0%
Brick Houses	27	10.2% of all brick houses	-25.3%
Frame Houses	5	3.5% of all frame houses	-32.0%

(Fig. # 10)

Home of Jasper Yeates, 24 South Queen Street. This illustration by Stauffer shows one of the nineteen three story brick houses found in the Borough of Lancaster in 1798. It was described in the Direct Tax as: 32'2½" by 41'; Brick; Three Story; Twenty Seven windows of 15 panes each; and valued at \$4,000. Courtesy of The Heritage Center of Lancaster County.



Windows per House by Region

In the Borough of Lancaster, a large number of windows per house might be expected because of multistoried buildings, a greater affluence by the population, and a closer contact with the current architectural trends in the coastal cities, but the number was reduced by the frequency of row style houses so common in this area. In the narrow lots of the Borough of Lancaster, windows often could not be placed in the sides of houses because they would only face blank walls or where the houses were in actual contact with the neighboring houses, the windows per house, which is only 0.1% greater than the sample average.

In the Contiguous Townships, the average was slightly greater than in the Borough with 0.5% more windows than the sample area average. Here, the number of windows would not be restricted, as the acreage was large and there were no row houses. The greater number of small, log houses no doubt kept the total number of windows down as these log houses contained only 2 or 3 windows per house.

The Outlying Townships, where houses were smaller and where there was a greater number of one story houses, the average number of windows was found to be the lowest with 0.8% less windows than the sample area average.

In summary, there was a small difference in the number of windows per house by region, with the Contiguous Townships being highest, and the Outlying Townships being lowest. The number of windows reported was low, averaging 6.5 per house. Only windows with glass were listed in the tax, therefore many houses seemed to have had window openings covered only by shutters. These were to receive glass at some late date.

WINDOWS WITH GLASS PER HOUSE BY REGION

Lancaster Borough	6.6 windows with glass	+0.1%
Contiguous Townships	7.1 windows with glass	+0.6%
<u>Outlying Townships</u>	<u>5.7 windows with glass</u>	<u>-0.8%</u>
Sample Area Average	6.5 windows with glass	

(Fig. # 11)

Panes per Window by Region

To make a regional comparison of panes of glass per window for each region, the percentage of type of glass arrangement was compared for the sample area as a whole. The sample area showed that for 2758 houses with windows, the window arrangement frequency was as follows: 12 panes, 50.2%; 15 panes, 17.2%; 24 panes, 8.5%; 20 panes, 4.7%; 18 panes, 4.3%; leaden glass, 3.8%; and all others 11.4%.

In the Borough of Lancaster, 12 panes of glass per window was the most common arrangement, but this was only 34.8% of all windows, or 15.4% less than the sample area average. Windows with 24 panes ranked second for the Borough, and third for the sample area with 21.1%, making it 12.6% higher than the sample area. Ranking third in the Borough was the 15 pane window. The 15 pane window, which ranked second in the sample area, comprised 15.7% of all windows in the Borough, but was a little less than the 17.2% for the sample area. Generally, the Borough of Lancaster has fewer windows of the 12 pane variety, and a greater percentage of windows of other arrangements.

The Contiguous Townships were most like the sample area average, with 55.2% 12 pane, 19.7% 15 pane and 20 panes at 4.8%. Only in the 24 pane windows is there much difference, as the Contiguous Townships had few of this type.

A real change in the pattern occurred in the Outlying Townships, where the 12 pane windows accounted for 67.9% of all windows, which is 17.7% greater than the sample area average, while all other types accounted for only 32.1%. The 15 and 24 pane windows ranked second and third respectively, and differed very little from the sample area average.

In conclusion, the rural areas and Outlying Townships had the strongest tradition of the 12 panes of glass per window, (67.9%), and the Borough of Lancaster was the weakest, with 34.8%. A generalization seems to be in order. There was a greater variation of window glass arrangement in the more urban Borough of Lancaster, with less predominance of a single arrangement (the 12 pane window), while in the rural area of Outlying Townships there was less variation in pattern and the one type, or 12 pane, was predominant. Concerning any generalization of glass per window as a diagnostic characteristic of the late 17th Century, one can see that while a 12 pane window is the most common, one would be right only half (50.2%) the time for the sample area. For the Borough one would be right only about one third (34.8%) of the time while for the Outlying Townships, one would be correct about two thirds of the time (67.9%). It would also be true that the greatest variation in panes of glass per window would be the urban centers and the least variation in the outlying rural areas.

PANES OF GLASS PER WINDOW BY REGION	
Sample Area (2758 houses)	
12 panes	50.2%
15 panes	17.2%
24 panes	8.5%
20 panes	4.6%
18 panes	4.3%
leadен glass	3.8%
others	11.4%

Fig. 12 continued on next page

Lancaster Borough		
12 panes	34.8%	- 15.4%
24 panes	21.1%	+12.6%
15 panes	15.7%	- 1.5%
Contiguous Townships		
12 panes	55.2%	- 5.0%
15 panes	19.7%	+2.5%
20 panes	4.8%	+0.2%
Outlying Townships		
12 panes	67.9%	+17.7%
15 panes	17.5%	+ 0.3%
24 panes	9.0%	+ 0.5%

(Fig. # 12)

Conclusion

It was stated in the hypothesis that the typical house of the late 18th Century was not a large house, two stories high, built of stone with lots of windows, but rather a much more modest house, one story high, built of logs, containing few windows. Research of the Direct Tax of 1798 provided the data which, when analyzed, proved that the most common house of the sample area was log (58.1%), was one story high (73.5%), was small (30 by 24 feet), and had few windows (6.5).

A second hypothesis was that a city or borough such as Lancaster would reflect an architectural difference because it is more in tune with changes brought about by new technology, popularity, and current fashions of the period than would be the rural, and usually more traditional outlying districts. The research found that the urban house was smaller per floor area (625 sq. ft.) than the Contiguous Townships (727 sq. ft.) or the Outlying Townships (587 sq. ft.) and had more multistoried houses (27.6%) than the Contiguous Townships (27.0%) or the Outlying Townships (24.8%). It also had more houses built of brick (70.6% of all brick houses) and frame (61.1% of all frame houses) where the Contiguous Townships were higher on log and stone (42.9% and 48.8% of log and stone houses) as was the Outlying Townships (42.6% log and 38.5% stone). Even with row houses, the Borough contained a slightly above average number of windows per house (6.6 for the Borough and 6.5 for the average) but the lowest percentage of 12 pane windows (34.8%) as compared to the Contiguous Townships 55.2% and the Outlying Township's 67.9%.

All in all, the most common house of Lancaster County, be it the Borough of Lancaster or an outlying rural township, was a small log house, one story high with a few windows, usually with 12 panes of glass.

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