

C O B B L E S T O N E

M A S O N R Y

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Until about two decades ago, cobblestone houses were accepted by up-state New Yorkers without much thought. That here developed a type of masonry wall of unique beauty and interest was never realized except by a few people. With but few exceptions, this type of masonry wall is not found elsewhere in our country. However, there are a number of cobblestone houses in Illinois, Wisconsin, Michigan and Ontario, Canada. In most localities, the first examples of these houses were erected by people who had migrated from the New York State cobblestone area.

Generally, we can say that Rochester is about the center of the cobblestone region. If we draw a circle, with a radius of about sixty miles, using Rochester as a center, we would include about ninety percent of all the cobblestone buildings.

There is no particular secret regarding the construction of this type of masonry wall,- using small stones laid in horizontal rows. Masons have used small stones to build walls for centuries. Some of these examples, particularly those in France, closely resemble the early cobblestone work in this area. Near Dieppe there are sections of the old city walls dating back to the fifteenth century that have similar stone masonry. Also in England there were walls built of small stones called "flint-heads", which could have been the source of inspiration.

The first cobblestone houses were built of fieldstones dropped by the glaciers that once covered New York State. The stones were a great source of trouble to the pioneer farmers trying to plant and cultivate their fields. The stones were laboriously gathered and built into miles of dry-stone-wall fences. Many tons of these stones were used in building foundation walls for houses and barns but these walls were built of various sized stones and small boulders and the face of the wall was flush. Then, sometime between 1825 and 1830, some mason built a house using the smaller fieldstones about three to four inches high in regular horizontal courses. This idea spread very rapidly.

There are usually several reasons that influence the development of a certain type of architecture or construction in a locality. This was true of cobblestone masonry. It was essential that the farmer clear his fields of stones because they interfered with the plowing and reaping. Children often helped to clear the fields of stones and they also sorted and sized the stones by dropping them through a hole cut in a board or through an iron ring called a "beetle ring."

In order to build the numerous cobblestone buildings many more masons were needed than are normally required. During the cobblestone period masons were plentiful in this locality because when the Erie Canal between Rochester and Buffalo was surveyed the engineers discovered that in many places it would be necessary to excavate the canal channel through sandstone beds. They decided to use these excavated sandstones to build the locks and bridge abutments. After construction started the contractors realized more masons were needed to complete the canal within the specified time and western New York could not supply them. Hence, they advertised for masons in New England and Pennsylvania. After the completion of the canal many of the imported masons, attracted by the fertile farmland and the business prospects created by the canal, made western New York their home. Consequently, there were many more masons in proportion to the other building craftsmen and the masons needed work to supplement their farm income. The use of cobblestones as a building material supplied this need.

Paint was expensive at this time and cobblestone walls did not require any painting.

Architecture has always been in a process of development or decay. It never stands still. The same is true of cobblestone masonry and its development can easily be traced through the usual divisions of early, middle and late periods. The Early Period included the work done between 1825 and 1835. The Middle Period extended from 1835 to 1845 and the Late Period from 1845 to the end of the Civil War. The passing of the generation of masons that worked on the Erie Canal between Rochester and Buffalo and the increase of wages caused by the Civil War ended the era of cobblestone masonry.

During the first half of the Early Period the masons used stones of various sizes and shapes as well as different colors, just as they were gathered from the fields. The exposed stones were from two and one-half to three inches high and from three to six inches long. A few stones eight to ten inches long are also found scattered in the wall. The horizontal mortar joint varied from one to one and one-half inches wide. It was a wavy, irregular line, formed into a flat "V" shape, the sharp edge projecting and was formed by the mason holding his trowel at an angle when striking the joint.

This form of a "V" joint greatly appealed to the masons and it spread very rapidly. The sides of the "V" are pitched more sharply and it is made a continuous line as straight and even as a trowel can form it. The "V" joint made the stones appear to project beyond the surface of the wall and in the sunlight each stone has a highlighted and shaded surface as well as a shadow. The effect of sunshine playing on such a wall made of various colored sandstones and granites is like the painting of the early modernists, myraids of dabs of color that vibrate in the light.

During the latter half of the Early Period the masons became more careful in selecting stones of a more uniform size and laid them more evenly with straight horizontal mortar joints. They also began to embellish the vertical joints between the stones with a projecting "V" shape of mortar or building up a small pointed pyramidal shape. But this embellishment of the vertical joint was never permitted to touch or interfere with the continuous horizontal joint. The tendency throughout the cobblestone era was to use smaller and smaller stones and to reduce the width of the horizontal joint.

In the Middle Period the stones averaged from one and one-half to two and one-half inches high and from two to four inches long, and were more carefully selected for size and shape. About the late "thirties" the masons began to mix rounded water-washed stones with the field stones. These round or oval shaped water-washed stones found in the gravel pits and along the shores of Lake Ontario had a certain fascination for the masons because they became the preferred material. At first the lake-washed stones were laid up in the walls of various colors from gray to dark red. Then it became fashionable to carefully select the stones all of the same color. Since red sandstone is abundant in this area, most of the houses were built of various shades of red or red-brown stones.

The horizontal mortar joints were reduced in width, averaging about three-quarters to one inch wide. The horizontal "V" joints and the pyramidal embellishments between the vertical joints were carefully made with a small trowel. However, in the early "forties" some mason made a metal form that would strike a bead or half circle about one inch wide to form the joint and also used some form of straight-edge or guide to make a perfectly straight line.

During the Late Period the masons carefully selected lake-washed stones of the same color and size. The tendency throughout the period was to use smaller and smaller stones and to reduce the width of the horizontal joint. The stones averaged from one inch to one and one-half inches high and the horizontal mortar joints, either a "V" shape or bead, were not more than three quarters of an inch wide.

The appearance and character of the cobblestone wall had completely changed. In the Early Period the stones were actually an integral part of the wall, they were a part of the construction. In the Late Period the small cobblestones were merely a veneer applied against a structural stone wall. The small lake-washed stones had no structural feeling. All the sparkle and life of the variegated colored walls disappeared because all the stones were of the same size and color. It has a monotonous, machine-made appearance. The beauty of the walls built of larger stones of various colors and shapes during the latter years of the Early Period and the first half of the Middle Period is apparent even in a photograph. These walls expressed a feeling for material rightly used and did not make a display of it as was done in the Late Period.

We divided the era into three stages, as early, middle, and late to understand the process of its development. It simplifies teaching, but we must realize that all craftsmen in an epoch do not follow these divisions. Some masons learned how to lay up cobblestone walls in the Early Period and continued to lay up this type of masonry in the Middle and Late Periods, as there were some carpenters who continued to run their own wood mouldings with moulding planes long after woodworking shops were cutting mouldings by machine. There are houses built as late as 1846 in which the cobblestones are laid in the Early Period manner. But we do know that a cobblestone wall built of rounded water-washed stones was not built before the latter half of the Middle Period, and that a wall built of small lake-washed stones, all of the same color was not built before the Late Period.

It was during the Middle Period, when craftsmanship and skill were nearly balanced, that the best work was done. The masons vied with each other in experimenting with new methods and patterns of laying the cobblestones. Some selected only squarish stones, others oval shapes. The oval shapes were set in the wall vertically, or diagonally, sloping the stones to the right or left. Herringbone patterns were common using thin oval-shaped stones from three to six inches long and from three-quarters to one inch thick.

In Sodus and Alton a mason built up his walls by using some white cobblestones. In one house he laid up the front wall with five courses of red lake-washed stones and a course of white lake-washed stones and the stones were graded from large stones at the grade to small stones in the peak of the gable. In another he built the front wall with alternating bands of red and white stones. Each band consisted of two courses of stones. In the church near Alton the front wall was built of alternating bands of red and white stones and each band consisted of four courses of stone.

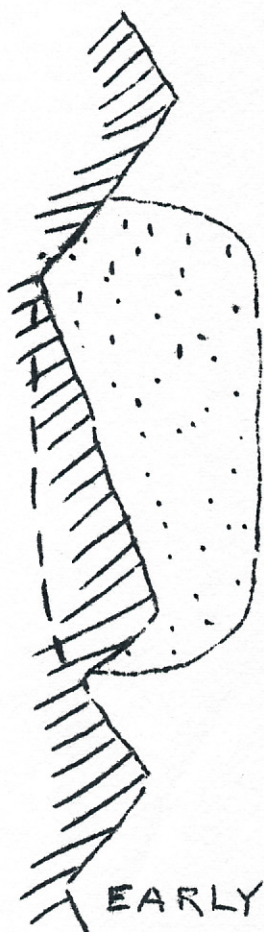
In and near Childs there are a number of houses, no doubt, the work of one man or group of men who did not like the idea of emphasizing the horizontal mortar joint. The cobblestones were laid in horizontal rows but a concave depression was formed around each stone to make it project. A pattern very similar to this, but larger in scale, is to be seen in parts of the basement walls of Chartres Cathedral. The result is an all-over pattern with high lights and shadows on each stone as well as in the depressions surrounding the stones.

During the first half of the Early Period the walls were built like stone walls of this type had been built for centuries. The walls, about eighteen or twenty inches thick were built of three rows of fieldstones, the middle stones breaking the joints. The wall was frequently tied together with elongated stones, three or four inches in diameter, and ten to eighteen inches long, with the small ends exposed. Triangular shaped stones with one end exposed were also built into the wall. Large stones, six to twelve inches thick and twelve to twenty inches long were built into the inner two-thirds of the wall. The entire thickness of the wall was carried up at the same time and the wall had a sound structural appearance.

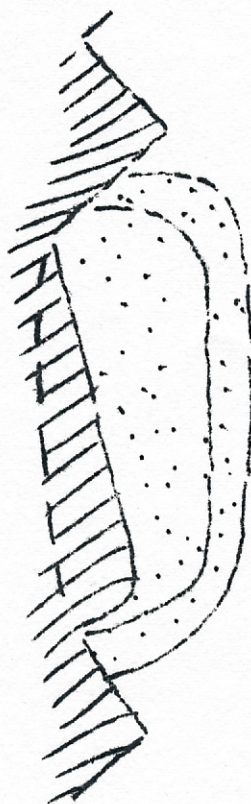
However, when the masons began to select smaller and smaller stones to form the horizontal courses, the cobblestones in the face of the wall assume the character of a veneer or facing.

One method of building the veneer or facing is as follows. The inner structural stone wall was built up several feet or more in advance of the facing. A wood frame work was built up on the outside of the wall and a plank set up horizontally on the frame in line with the proposed course of cobblestones. The plank was the same thickness as the height of the cobblestones and the stones were laid up so that the outside edge of the stones just touched the plank. It kept the outside edge of the stones in perfect alinement vertically and horizontally. A metal tool, either a "V" shape or a bead was used to strike the bottom horizontal joint using the bottom of the plank as a guide. After a course of stones were laid the length of one side of the house the plank was raised to lay the next one.

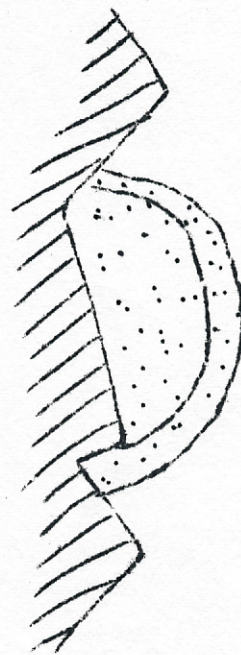
There were, no doubt, other methods used by the various masons, but they were never recorded and are completely lost. We do know that some masons made every effort to keep their particular method a secret, although there is no particular secret of laying such a wall that present day masons could not learn and they would most likely rediscover the various methods used by the cobblestone masons.



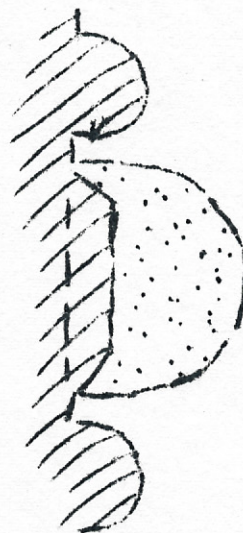
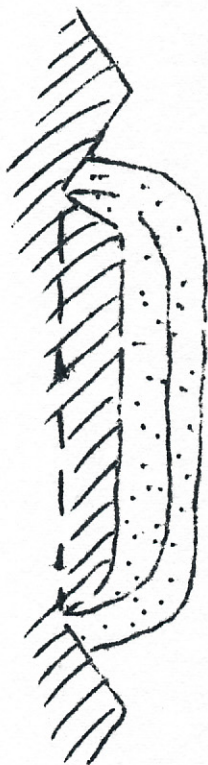
EARLY
PERIOD



MIDDLE
PERIOD



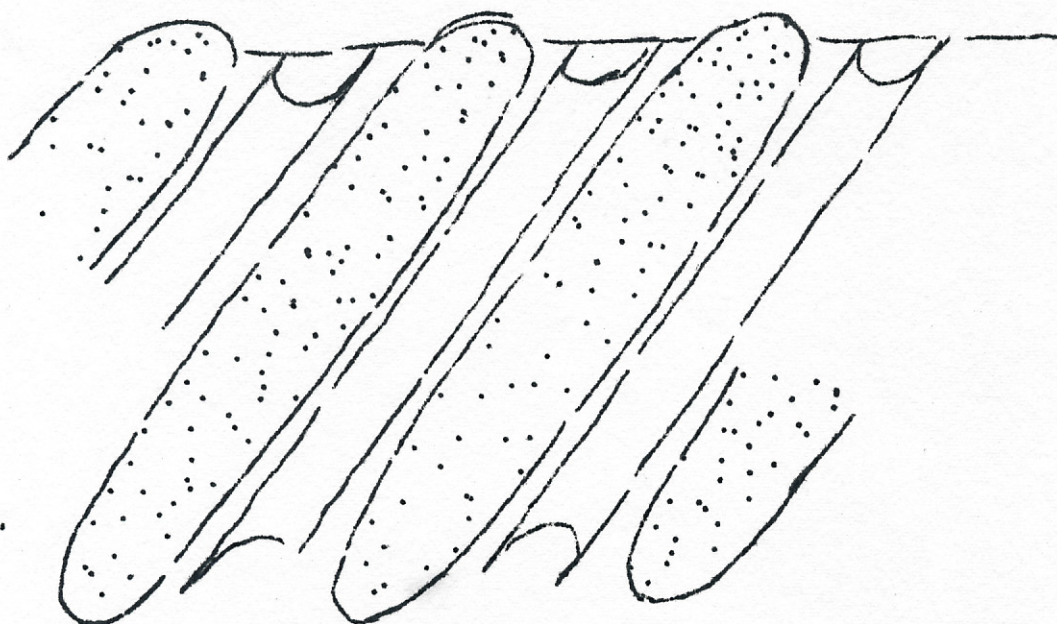
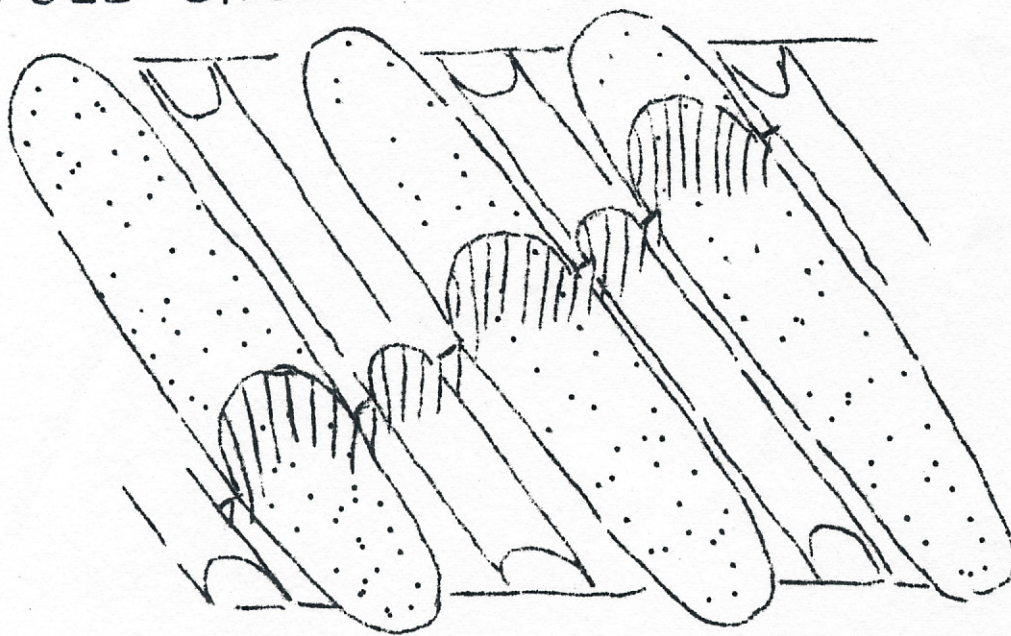
LATE
PERIOD



FULL SIZE SECTIONS
THROUGH COBBLESTONE WALLS

COBBLESTONES LAID IN A
HERRINGBONE PATTERN
SAUNDERS HOUSE, RIDGE ROAD

FULL SIZE



C.F.S.