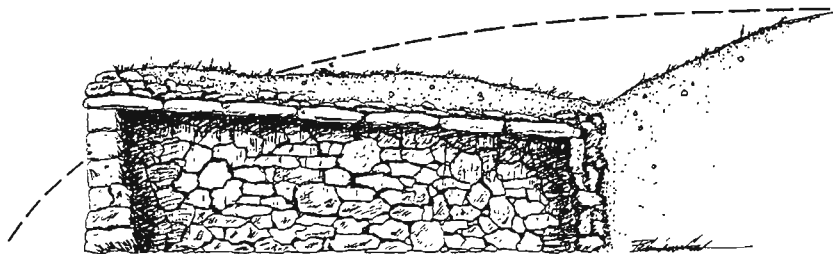

Stone Chambers in Putnam Valley

by Thaddeus Cook and Barbara Doyle

Scattered along the roads and throughout the woods of Putnam Valley are several dozen stone chambers. Residents now generally think of these chambers as root cellars, dirt cellars and ice houses—ancillary structures of the old homestead. On some sites, traces of the original farm can only be determined from the remnants of crumbling foundations and rusting tools. Occasionally the existence of a nearby farm site is doubtful. The chambers' origins remain unclear; a lack of written reference to the structures deepens the enigma.

Most of Putnam Valley is located within the rock-strewn Hudson Highlands, east of the Hudson River. Throughout the region, a shallow layer of earth covers a granite bedrock. The steep slopes are typically covered with loose boulders and jagged outcroppings.

The stone chambers are set into the hillside and mounded over with dirt. In his unpublished papers, Lucas Barger, who was born in Putnam Valley in 1867, wrote, "A hole was dug in a side hill piecemeal in advance of the frolic, when the stun [*sic*] work would be done." The hole had to be quite large, about three times the inside dimensions of the cellar. For an average sized chamber, an area of four hundred square feet had to be cleared. Multiplying that number by the height meant fifty cubic yards or more of rock and soil had to be moved. Just clearing the land in order to construct the cellar was a significant job. After the stonework was completed, large quantities of earth were back-filled against the outside of the back and side walls, then mounded over the top—four feet according to Barger.



This illustration shows how the chambers were set into the side of a hill. The dotted line indicates the slope of the hill before it was dug out for the chamber.



The chambers were constructed using the drywall technique—without mortar. The left wall of this one was part of another building.

The chambers are rectangular in shape, usually consisting of four stone walls and a granite slab ceiling. They are mortarless, having been constructed using the drywall technique. Many seem to have been pointed up at a later date, perhaps to hold the chinking in place. The stones used in the construction were obtained on or near the site.

Chamber size varies considerably; the largest ones are three times the length of the smallest. The longest one measures thirty-three feet, but most are between fourteen and twenty feet long. A floor level width of eight to nine feet is typical, although Barger indicates that they were usually ten feet wide. Chamber heights extend from five to seven feet, but five feet nine inches is an average height.

Most of the chambers were corbelled, a building method of overlapping stones to curve the interior walls inward. Corbelling makes the area to be roofed narrower; therefore, smaller capstones can bridge the distance between the side walls. The technique is not consistent among the chambers. Some have corbelling that begins at the base course of stones and continues to the top. Others have interiors that rise vertically for a few feet, with the last several courses heavily corbelled. The chambers' wall construction varies between cobbles and extremely large stones. Two of the chambers examined were built utilizing bedrock in the back wall. Though many were built close to bedrock and may have had bedrock floors, silting has occurred over the years, covering the floor with several inches of dirt. In some instances a dirt floor was prepared, while some chambers have flat stones paving the interior.

The ceiling is the most dramatic part of most cellars. Several granite slabs lie adjacent to each other so that a relatively flat surface creates the ceiling. But these slabs are big; they must span the space between the side walls, generally four feet at least, and provide a three-foot overlap on the side walls. The stone has to be fourteen feet long. Some of the ceiling stones are also very wide—up to six and a half feet. One chamber that is almost thirty-three feet long has just eight slabs in the ceiling and that includes the needed overhang for the back wall plus the lintel having a twenty-two-inch overhang! One of these massive stones in a different chamber has split from front to back, creating the potential for a collapsed ceiling.

Three chambers were built below the surface, with stone steps leading down into them. Only one of the three has a log roof, although we surmise another did as well, there being no evidence of a collapsed slab roof. The third chamber has a slab roof. A few chambers have wood-framed and shingled roofs above the stone-



Looking in at the interior of this chamber, we can see the corbelled walls and narrow, slab ceiling typical of most chambers.



Most chambers did not have wood-framed roofs such as this one. This roof served no purpose and was only for decoration.

work. These roofs seem to have served no purpose because removing them has had no effect.

The doorways are generally located near the center of the front wall. These openings vary in depth but none can be described as a passageway. All of the doorway openings have a stone lintel, though one has an iron support still attached. The doorways generally contain a door frame and door. If they are not present now, there are various markings indicating their former presence.

The only other apertures are vent holes—found in the roofs of several chambers. A short round pipe is inserted between two roof slabs, toward the back of the structure. Since the chamber walls and ceiling show no evidence of carbon buildup from an open fire, the vents did not function as chimneys. Their function may have been to maintain air circulation.

There are no discernable tool marks in most of the chambers. However, there are stone-splitting techniques that leave little or no trace. Driving wooden wedges into cracks to split the stone or heating the stone and then pouring water over it to fracture it are both common methods. The slabs used in the roof construction seem to be completely free of any markings, and probably were split in one of these fashions. Most of the chambers have undressed stone, that is, stones placed in their natural state without being shaped by tools.

There are a few chambers whose wall stones bear drill-hole marks. The holes were drilled to facilitate splitting the rock. After the stone was split a visible cross-section of the hole remained. The drill-holes are often still visible, with the bisected mate incorporated in the same wall. These marks are generally in those chambers that have large stone construction.

One stone structure, the 'Comi' chamber, is unique in several ways. It is underground, smaller than average, and contains more drill marks and dressed stonework than any other example. Flat rocks create five separate cubby holes, the largest one being six cubic feet. And one of the dressed stones contains finely wrought, perfectly legible lettering.

Discussions with descendants of several "old families" in Putnam Valley indicate that the cellars served as primitive refrigeration. About the right temperature could be maintained if the owner just "set the door up."² The existing weather conditions determined when and how much the door was opened. Obviously, the door was manipulated like the damper on a wood or coal stove.

The thick layer of soil surrounding the chamber acted as insulation, helping to keep the interior temperature within a nar-



Looking up and out from the 'Comi' chamber, an unusual underground chamber.



Thick wooden doors were opened or closed, depending on outside weather conditions, to regulate the temperatures in the chambers, believed to have been used as "primitive refrigerators."

rower range than the ambient outside temperature. During winter, it had to be kept just above freezing. Thick wooden doors, opened as infrequently as possible, helped to keep out the cold. One family that grew corn gathered the stalks into bundles and piled them against the front of the chamber during the winter³—a practice still followed by some farmers in the Catskills who 'bank' their foundations.

The cellars were used primarily to store apples and root vegetables. These were set in wooden boxes, holding a half bushel to one bushel, which were then placed upon wooden platforms. The boxes were not placed too close to the stone walls. Air had to circulate all around the boxes. Sometimes potatoes and parsnips would be buried in sand or dirt within the boxes. If the fall harvest was good and the winter weather was not too harsh, both apples and vegetables could be taken from the cellar in June the following year. Cider was stored in the cellars, and in more recent times, homemade wines were, also.⁴

The ideal inside summer temperature ranged between forty and fifty degrees Fahrenheit. The roof vents, in addition to a screened opening in the door, allowed air to circulate and warm air to escape. The cellar could be kept cooler if the floor was below grade or if the sun did not shine on the top of the cellar. Trees or a nearby hill could provide the necessary shade. Dairy products and meat were occasionally moved into the cellar during the warm months.⁵

There are a number of theories concerning the origin of the stone structures. Although the written record is for the most part silent, early settlement patterns, construction techniques, topography, available technology and oral tradition provide good secondary clues to their probable origin. Lack of primary documentation is an extremely common occurrence and may not be an indication of either great antiquity or historic novelty.

Little is known of the native inhabitants of the Putnam Valley region. The last aboriginal inhabitants of the region were the Wappinoes and Mahiccondas of the Mahican Indian Nation. Though their principal residences were north of the town, a local band called the Canopus Indians supposedly maintained a significant village in Canopus Hollow, a valley that cuts through Putnam Valley. Late Woodland sites dating from approximately 1000 A.D. to 1600 A.D. have been identified in the Hudson Valley, predominantly along the major waterways. However, to this date no systematic archaeological survey has been done for the interior of Putnam County. Important prehistorical finds have, however, been located in scattered areas of the county.⁶ No prehistoric sites have been studied in Putnam Valley as of yet, although a few have been tentatively marked as possible areas for exploration. One of these sites borders the Canopus Valley.⁷ Even though some projectile points have been unearthed, the Indians' presence in this area is still wrapped in obscurity.

The area did not at first beckon the European settler, who was often a farmer. He went to the more fertile lands north and south of Putnam County, as shown by early census and tax records. A 1737 census of Dutchess County listed 161 heads of households within the South Ward. This census information was further categorized and shows that in 1739 there were fifteen families⁸ in the Philipse Highland Patent, which was all of Putnam County except for a narrow strip of land on the Connecticut line. Obviously, there were few settlers in what eventually became Putnam Valley.

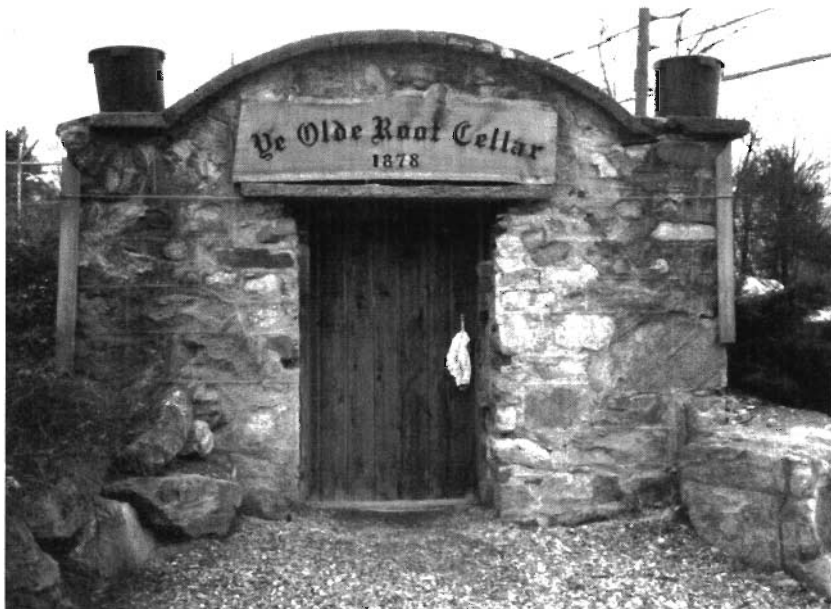
Settlement increased after 1740 with families coming from Cape Cod, Connecticut and Long Island. The population swelled so that about one hundred individuals purchased land from the Commissioners of Forfeiture in 1788 in what was Lot #4 of the Philipse Patent. Approximately the southern two-thirds of this territory became Putnam Valley in 1839. The 1840 census, the first for the town of Putnam Valley, recorded 1,659 residents in the new town. The population dropped off from a high of 1,843 in 1875⁹ as western farm-lands opened up and migration to the cities accelerated. The land did not attract the farmer initially, and, subsequently, it did not keep him.

Stone chambers tend to be classified by assumed age, using the terms *prehistoric* and *colonial*. *Prehistoric* means before the white man arrived and recorded his surroundings. *Colonial* covers the following time period with no specific cutoff date. Because of the late settlement of Putnam Valley and its relative isolation from outside influences, the descriptive word *colonial*, as used here, applies to the time period from about 1740 through the end of the nineteenth century.

The first and most accepted theory of origin is that the chambers are colonial root cellars, used for storage of food. This has been confirmed through oral tradition many times both in Putnam County and in areas of New England. Oral history often indicates that an earlier generation may have built the farm's root cellar, but only two current residents were able to supply any construction details. "Nothun to it,"¹⁰ said one of them—provided you had the knowledge, right sized materials, tools, manpower, animal power, good weather, a nearby hillside, and sodded the top right away.

If the chambers that dot the hillsides of Putnam Valley and parts of the county were constructed by the first settlers, their records make no mention of these structures. Local histories include abundant mention of communal buildings, private residences and unusual features. Rev. Robert Bolton,¹¹ recalls numerous "manitou" stones, the godstone of the native Americans. Even caves and mines are described, along with their associated legends. There are over one hundred stone chambers in the county, forty-eight of them in Putnam Valley, but no mention of them has been found in Putnam County annals or connected writings. It may be that this was just a typical farm outbuilding, constructed with an abundant raw material.

Giovanna Neudorfer, who is the Vermont State Archaeologist, in her article in the Spring 1979 issue of *Vermont History*,¹² quotes a work by Amos Long that describes the construction of the hillside or "cave" cellars of Pennsylvania: "These 'caves' differ from the Putnam



Whether or not the early white settlers in the area actually built the cellars, or found them already there, it is obvious that this one was used by the settlers as a root cellar for food storage.

Valley chambers, but it is testimony that early settlers produced similar buildings with the same materials.”

The question asked by Neudorfer, “Are the stone chambers [of Vermont] architecturally and functionally deviant from the eighteenth and nineteenth century farm setting?” is also relevant to Putnam Valley. The stonework in the chambers often bears some resemblance to nearby walls and foundations. Whether they can be called functionally deviant or not is dependant upon the methods of farming and the necessity for a stone storage chamber.

According to Neudorfer, the use of silos for crop storage did not come into use until the late eighteenth or early nineteenth century. The chambers could have been a necessary local response to the need for storage. If the stone chambers had been present on the land before the settlers arrived, they would have been utilized by the local farmer.

James Whittall II quotes a letter dated 1654 from Thomas Pynchon of Springfield, Massachusetts, to John Winthrop, Jr. that indicates he had a “report of a stone wall and a strong chamber in it, all made of stones, which is newly discovered at or near Pequot.”¹³ Records such



It is suggested that native Americans had the stoneworking capabilities to build some of the chambers.

as these are rare. This statement leads us to believe that there were enigmatic pre-colonial stone chambers.

A second theory of the chambers' origin has been proposed. As archaeological studies of the native Americans of the northeast have become more comprehensive, it is reasonable to assume that they had sufficient lithic, or stoneworking, capabilities to build these chambers. It has been postulated that the chambers were constructed by the local Indians for ceremonial purposes.

Byron Dix and Jim Mavor in their book *Manitou*¹⁴ have suggested that the Indians built many of the stone walls, stone piles, and perhaps even some of the stone chambers. Two Massachusetts chambers, similar to those found in Putnam Valley, were excavated and have revealed stone tools, the earmark of the early native Americans. The lack of pottery shard finds and other evidence of habitation indicates the sites were religious and used for ceremonial purposes. Further, since the upland regions were not typical habitation sites for the Indian, pre-colonial artifacts would be rare. Towards the end of the nineteenth century the Smithsonian reported finding corbelled chambers in Pennsylvania, Iowa, and Minnesota, with numerous skeletal remains. These are presumed to have been ancient burials, but whether they are of aboriginal origin may never be known.

Another aspect of the studies by Dix and Mavor involves astronomy. Stone Age Europeans aligned their burial chambers and other structures with the sunrise or sunset of a specific day of the year. Indians of the southwest had similar practices involving solar events on specific days important to them. Dix and Mavor have found that many of the chambers they examined in New England have their long axis aligned to a particular solar event. This, in theory, would precipitate the shamans ceremonial activities. There are standing stones and other lithic works that seem to be associated with the chambers and may have been used for sighting purposes while within the chamber. The authors' conclusion, based upon their excavations, chamber orientation and other lithic features, is that many chambers were built for the purpose of celestial observation, perhaps in conjunction with the Indian tradition of the shaman's vision quest.

A third theory is that ancient seafaring peoples from Northern Europe or Mediterranean areas colonized portions of northeastern America and built the stone chambers either as burial vaults or for ceremonial purposes.^{15, 16} A similarity between ancient European stonework and the American chambers has been cited along with alleged inscriptional evidence.



The weight of the stones used to build the chambers leads historians to believe that the early settlers built the chambers since they had the manpower and oxen to move them. Shown here is a roof collapsing from the weight of the large stone slabs.

These people are said to have first appeared in the northeast about 2,500 years ago. Supposedly they came to harvest timber and obtain furs. The Carthaginians were a maritime nation and required vast amounts of timber for their navy. Since they were at war with Rome, and Rome controlled most of the timberlands, the Carthaginians came to America's expansive forests. The Vikings of Greenland also needed timber, for ships and houses, and pelts for clothing. If these activities were significant in scope, these people would have maintained outposts here and brought some of their religious customs with them. The stone chambers are thought to have been built as religious observatories.

Burial vaults in Portugal and Brittany and stone chambers of unknown date in Ireland have been cited for their similarities to New England's chambers. Inscriptions comparable to those in Ireland and the Iberian peninsula have been found in this region. Stone structures on both continents have astronomical alignments. There are also cultural and linguistic similarities between eastern American Indians and specific ancient European groups, implying contact between them at some earlier time.

There are several compelling reasons to support the colonial origin theory. A significant population would have been needed to construct so many of these chambers. Because of the weight of many of the stones, animal power would probably have been required to move the stones. The settlers had both the people and the oxen. The largest chamber we examined had a hand hewn wooden frame and door. Although in reasonably good condition, it had been removed and was lying nearby. It no longer fit into the doorway opening because of movement of the rocks. We conclude that the stone chambers deteriorate when not maintained. If the chambers predated the farming community, we would have expected to find more dilapidated chambers.

The other two theories are more than interesting; they offer exciting explanations. Acceptance or rejection of them depends upon conclusions obtained from more archaeological, astronomical, inscriptional and site specific studies. There are too many unanswered questions at this time to endorse either one, but we're waiting for the answers.

Notes

1. Lucas Barger papers, 1939, Putnam Valley Historical Society.
2. Interviews with J. Cardinale, S. Gardineer, S. O'Dell, V. O'Dell, H. Orlando, E. Pattie, C. Perry, S. Sheldon, March-April 1990.
3. Interviews.
4. Interviews.
5. Interviews.
6. Interview with Gail Travis Guillet of CITY/SCAPE: Cultural Interpretations, New York, April 10, 1990.
7. Draft Environmental Impact Statement for Candlewood Hill, Cultural Resources Survey, Ernest A. Wiegand II, Dec. 1986.
8. William P. McDermott, "Colonial Land Grants in Dutchess County, N.Y. A Case Study in Settlement," *Hudson Valley Regional Review* 3, no. 2 (1986).
9. William S. Pelletreau, *History of Putnam County, New York*, (Philadelphia: W.W. Preston, 1886; reprint, Interlaken, New York: Heart of the Lakes Publishing, 1988), 128-9.
10. Interviews.
11. Rev. Robert Bolton, *The History of the Several Towns, Manors and Patents of the County of Westchester from Its First Settlement to Its Present Time*, (New York: Charles F. Roper, 1881).
12. Giovanna Neudorfer, "Vermont's Stone Chambers and the Nature of History," *Vermont History* 47, no. 2: 119.
13. Neudorfer, "Vermont's Stone Chambers," p. 85.
14. James W. Mavor, Jr. & Byron E. Dix, *Manitou* (Rochester, Vermont: Inner Traditions International, 1989).
15. Barry Fell, *America B.C.* (New York: Pocket Books, 1976).
16. Salvatore Trento, *The Search for Lost America* (Illinois: Contemporary Books, 1978).