New England Antiquities Research Association



Stone Rows & Boulders: A Comparative Study A Field Report by Norman E. Muller

Introduction

Crisscrossing the New England countryside are thousands of miles of rude stone walls, the result of an extraordinary effort on the part of colonial farmers to clear their fields of unwanted stone and define their property lines. Most of this wall construction presumably occurred between c.1775 and 1825 as a result of several converging factors: the lack of wood for fences following the widespread deforestation of the colonial period, the end of common herding and the enclosure of common lands, and an increase in sheep herding (Allport 1990, Foster 1999). These are the reasons normally upheld by historians and archaeologists to explain this ubiquitous feature of the New England landscape.

Within this same region are stone walls that do not appear to be the result of field clearing or an attempt to mark property lines. These walls (hereupon called 'rows') do not usually form neat enclosures. They are frequently open-ended, make odd and unexpected turns, and do not seem to conform to what we know about colonial wall building. James Mavor and Byron Dix (1989) ascribed these to pre-contact Native American tribes, and proposed that some of them, along with standing stones and underground chambers, were used for determining solar and celestial events. Reaction to their view and that of their proponents among archaeologists and scientists has been harsh and sometimes derogatory (Parker 1982, Conuel 1997, Levillee 1997), and few professional archaeologists have come forward to question openly whether there might be any validity to their hypothesis (Hoffman 1990).



Fig 1. Detail map of Central Ridge site, Oley Hills, PA

There are various ways that stone rows can be studied,

and my own interest has focused on their morphology in relation not only to large or unusual looking boulders that they might be linked to, but also the landscape in which both are found. Toward this end,

over the past two years I have studied a very unusual site in the Oley Hills of eastern Pennsylvania in an attempt to determine whether the stone features found on it are Colonial or Native American. (Fig. 1).

Deeds were traced back to the first settler in 1751 to see whether any of the property lines as mentioned in the deeds coincided with existing stone rows. Historical documents were also checked to see if anyone had mentioned the unusual stone rows and other features, and who might have built them. Nothing was found to substantiate the colonial hypothesis. Then, in October 1998, I guided Bill Sevon, a geologist with the Pennsylvania Geological Survey, through the site to get his perspective on how some of the large boulders were formed. When he saw the large quartz rocks incorporated in some of the stone rows and other features, he remarked that they could not have come from the ridge site itself, which consisted wholly of granitic gneiss, but must have been gathered somewhere in the Hardyston Formation in the valley below a mile or more away (Buckwalter 1957).

The quartz pieces that have been found in many of the features represented in Fig. 1 are very much alike, in that all seem to have two flat, parallel faces, and vary from 3-6" thick (Fig. 2). One slab on top of the North Row measured 14" x 10" x 4"! And another in a short row between the South Row and the Terrace was 18" across; most, however, were 6-8" in diameter. Given the fact that all share the same general physical characteristics, it would appear that they all came from the same location, which was perhaps a large exposed seam of quartz where pieces could be easily pried out. The early settlers hardly would have bothered to gather quartz from a distant location to incorporate it in a wall, when their purpose for building walls was to rid their fields of stone. Quartz, however, had a symbolic and religious importance to Native Americans, not only because of its light, translucent color, which could have represented the brightness of the sun and moon, but also for its piezoelectric properties. With the discovery that the quartz came from the valley, the colonial hypothesis became a dead issue.



Fig 2. Quartz piece (center) in Platform 'B.' Central Ridge site,

Oley Hills, PA.

This report will compare the relationship between stone rows and boulders at two sites: the one in the Oley Hills of Pennsylvania, and three areas in Montville, Connecticut. Information that has been gathered from the Oley Hills site provides strong evidence that the features described in this report predate the colonial settlement of the region in the mid-eighteenth century. Thus the features found on this site will serve as the standard against which those from Montville will be compared. The two sites are more than three hundred miles apart, yet the way in which the stone rows are laid out to emphasize certain boulders and those split apart by frost action reveals a similarity of purpose. Moreover, stone row construction such as this was not restricted to just Pennsylvania and Connecticut, but was much more widespread, having also been found in areas of the South.

Oley Hills Site: Central Ridge

In the Oley Hills of Berks County, Pennsylvania, is a 46-acre site that contains an impressive and unusual array of stonework, consisting of large cairns, stone rows, platforms and terraces (Muller 1998). A 15-acre parcel of land on this site, which I call the Central Ridge, contains the most

interesting features, and over the past year-and-a-half it was studied in an attempt to determine whether the features found on it were Colonial or Native American. We will examine only a small portion of the Central Ridge, encompassing the area containing Platform 'B' and the large Boulder on the summit ridge as shown in Fig1.

What must have been an important focal spot on the Central Ridge is the area around Platform 'B' at the top of Fig. 1. Platform 'B' is a rectangular, flat-topped, dry wall stone structure measuring 22' long, 11' wide and varying from 39-78" high. At its north end, a small, terraced, scorpion-like 'tail' extends to meet several large boulders. Because three rows diverge from the vicinity of Platform 'B,' with the latter acting as the hub, it must have been the center of some kind of activity, but I have no idea what this might have been.

The West Row has a generally rounded profile and engages a large inclined cairn 60' from where it begins. The North and South Rows, meanwhile, are quite different in that they have a wedge-shaped profile, whereby the east facing side is vertical and the west one is sloped, consisting of a backfill of small stones topped with flat slabs of gneiss (Fig3).



Fig. 4 Row-Terrace and large Boulder, from S. Central Ridge site, Oley Hills, PA

The North Row traces the contour of the ridge crest and presents an impressive façade when seen from below, to the east, but is non-descript looking from the west, much like the false facades of village stores in cowboy westerns. It would appear that this emphasis on the vertical side



Fig. 3 North Row, from S. Central Ridge site, Oley Hills, PA

was intentional on the part of the row builders, who determined not only the direction from which these sculptural monuments should be seen, but also their direction or flow and placement in the landscape. The South Row begins no more than twenty feet from the platform and leads to the large Boulder on the ridge summit. The row maintains its wedge-shaped profile to the top of a ledge outcrop, but once there changes to a more typical shape with a flat top when it makes a sharp turn to the right (west), keeping the boulder field to the left, and curves counterclockwise around the Boulder to end in a wide, flat platform (Fig. 4). Each of the twists and turns the row makes was intentional on the part of the row maker, either to emphasize a particular feature, such as a ridgeline or ledge, or to avoid another, for example the boulder field below the large Boulder. By walking around the site numerous times and from various directions, it seems clear the sole reason for constructing the South Row was simply to lead to the large Boulder, and in some way to emphasize its presence.

The large Boulder dominates the Central Ridge site and must have been the main focus of the site. It can be seen from many locations on the ridge itself and from the valley to the east, looming against the skyline - much more impressive looking from a distance than next to it. It is roughly oblong in shape, measuring 9' high, 15' long, and 6' wide (Fig. 5).

When I first saw it, I assumed it was a glacial erratic, simply because it was completely free of bedrock and looked like the

ones I had seen in New England. Then I discovered that the Fig. 5 Large Boulder, from E. Central Ridge site, Wisconsin glacier advanced no farther than about twenty miles to the north, and that the Boulder itself was of gneiss, the bedrock material, and was resting on three smaller boulders of the same stone. The glacial erratic hypothesis had to be abandoned. In 1998, Sevon examined the Boulder but was



Oley Hills, PA. Note the meter rod leaning

against the Boulder

unsure how it was formed. In a letter he described the Boulder as "peculiar." He continued: "MY natural inclination is to attribute it to periglacial activity, freeze and thaw, although I cannot describe exactly how it got the way it is. It could be a toppled tor, it could be man placed. I don't know for sure" (1999). Periglacial refers to landscapes that have been transformed through frost action and erosion by water and wind, in areas that are largely frost free (Clark 1993). This activity presumably occurred in the zone below the farthest advance of the Wisconsin glacier at the end of the last ice age (c. 11,000 BP).

If it was "man placed," as Sevon speculated, it is difficult to determine where the block of stone might have come from, since the terrain around the Boulder is relatively flat with the nearest exposed ledge 700' away to the south over undulating terrain. It is not impossible, however, that a boulder this size could have been moved, since we know that the large bluestone standing stones that comprise the inner circle of Stonehenge originated in the Preseli Mountains of southwestern Wales, a circuitous 200 miles away. These were transported to the site by land and perhaps water more than 4000 years ago, a tremendous engineering feat (Castleden 1993). But at the same time, I am unfamiliar with any evidence that establishes that early Native Americans in the Northeast would have attempted to move a boulder this size. However the Boulder ended up in its present location, it is now supported by no more than three smaller boulders, and may have once been balanced in such a way that it could be rocked simply by pushing against it. Two small stacks of rocks, now firmly wedged underneath the north end of the Boulder, were probably placed there to keep it from rocking (Fig. 6).



Fig. 6 Rock stacks under north end of large Boulder. Central Ridge site, Oley Hills, PA

Over time, however, large blocks of stone broke away from the south end of the Boulder, presumably through freezing and thawing, putting to an end the rocking characteristics and at the same time creating a significant overhang (see Fig. 5). Some of these blocks are now arranged in a rough semicircle underneath the overhang. With the rocking characteristics eliminated, presumably whatever ritualistic functions associated with the Boulder also ended.



This, however, does not imply that the Boulder at this time ceased to be important to the native peoples. One clue arguing against this is the short stone row Fig. 7. Short stone row between South Row and large connecting the South Row to the Boulder (Fig. 7). It Boulder, from SW. Central Ridge site, Oley Hills PA. seems like an afterthought. The pieces of gneiss

comprising it are much more angular, the edges sharper and fresher looking, and the lichen-cover less extensive, than the cobbles from the South Row or elsewhere. It also seems to be less tightly constructed than the South Row. Quite possibly, the stones in the row came from one or two of the spalls from the large Boulder, which were then broken up into smaller pieces suitable for construction. This short row could be viewed as just another stone wall, were it not for the fact that it touches and aligns with the broken edge of the Boulder. By emphasizing this, it joins two others from the South Ridge site and Montville respectively, both of which will be discussed shortly, to demonstrate that rows that touch frost-fractured surfaces may have attempted to connect with the force that caused the stones to break apart in the first place. The rows may also have been built as a sign of homage to the god that resided in the stone that fractured.

Oley Hills Site: South Ridge



Fig. 8. Map of Row-Linked Boulders, South Ridge.

Oley Hills, PA

stone rows and boulders that I call the Row-Linked Boulder site (Fig. 8). It is a bizarre looking area consisting of odd shaped boulders, many split apart by frost action, and one tipped into an upright position (Fig. 9). The features found there are quite different from those on the Central Ridge, but we will find that in its details, it is surprisingly revealing of the mind set of the individuals who built the rows. Furthermore, we will discover that these details are also reflected in the some of the features found at Montville, CT.

The Row-Linked Boulder site is best approached from the south, just off a cart path leading from a farmer's field. A low stone row near the path meanders up to a large, rectangular Perched Boulder (Fig. 8, 'A') that is directly on top of a rounded large boulder or ledg outcrop (Fig 10).



Fig. 9. Row-Linked Boulder site, from E. South Ridge,

Oley Hills, PA



Fig. 10. Perched boulder ('A'), from S. South Ridge,

Oley Hills, PA

This Perched Boulder, which is also of gneiss, measures 3' high x 7' wide x 13' long. Underneath the overhang on the eastern end is a scattered assembly of eight fist-sized stones, none of which appear to be weathered fragments that spalled off from the underside.

At the very end of the ridge to the south, in an area called the South Ridge, is an unusual complex of



Fig. 11. Rock fill between boulders ('B'), from S. Row-Linked Boulder site, Oley Hills, PA.

Around the north end of the Boulder, a short stone row leads in about twelve feet to a cluster of four boulders (Fig. 8, 'B'). These all appear to be the weathered remnants of boulders that earlier had been split apart by frost action. Of this cluster, the short row filling the gap between two boulders perched on top of a much larger one is most interesting, since the components comprising it appear to be fragments of an already weathered boulder (Fig. 11). This is especially the case with the large, bottommost piece of fill, which has a rounded surface and may have come from the broken section of the large boulder to the left.

One of the most interesting and revealing details of this boulder complex is found at the next location (Fig. 8, 'C'). Here we find that a large section of the boulder to the left had slid off, perhaps from frost action, and ended up leaning against the parent rock (Fig. 12). Then a short stone row was constructed connecting the spall with the parent rock, thereby symbolically joining the two parts. This is a fascinating detail, because in its construction it clearly implies that the function of the row was to connect the two broken rock pieces, similar to what we just saw with the short row between the South Row and the large Boulder (see Fig. 7). Early Native Americans had no concept of geological processes, and natural phenomena, such as earthquakes and in this case frost splitting, had supernatural overtones. Given that humans have great difficulty breaking large boulders with primitive tools, seeing one split apart as if by magic could only be explained as having been done by a god.



Fig. 12. Short stone row between boulders ('C'), from N. Row-Linked Boulder site, South Ridge, Oley

The final section that we will consider is found at the end of the site **Hills, PA.** (Fig. 8, 'D'), where there is a large boulder topped by a smaller one

(see Fig. 9, right). When Bill Sevon visited this site in 1998, he was quite convinced that the smaller boulder on top was now upside down, and had originally come from a depression in the top of the large boulder. At some point in the past it became dislodged, and someone simply turned it upside down in its natural cavity. Against the large boulder a bank of small stones has been piled up, and to the rear a blanket of small stones covers the surface.

Montville Row-Linked Boulders Site

When the name Montville is mentioned to people who are familiar with New England stone chambers, the 'souterrain' in that town often comes to mind – an odd, isolated, tunnel-like chamber built into a rocky, wooded hillside (Trento 1997). There is more, however, to Montville than the 'souterrain', as I discovered more than a year ago, when out of curiosity I crossed Hunt's brook and began to explore the terrain on the other side. This section will focus on three areas to the east and north of the 'souterrain', across Hunt's Brook, which contains an unusual assortment of rows and boulders central to the subject of this report.



Fig. 13. Map of Row-Linked Boulder site.

Montville, CT.

Pequot and Mohegan tribes first entered the area we will discuss shortly before 1600. It was rich in game and close to the seacoast, and it provided the tribes with an abundance of food. Unfortunately, the region was also coveted by English and Dutch settlers and traders, and skirmishes between the groups escalated into the infamous massacre of the Pequots on May 26, 1637, near what is now Groton, Connecticut. A tripartite treaty with the English settlers was arranged in 1638, and it was signed on September 28, 1640. Thereupon begins the settlement of Montville, which was first known as the North Parish of New London (Baker 1896).

One point that became obvious after a number of stone rows had been studied at both sites under discussion is that there is often a directional flow to the construction of openended stone rows. This can be perceived and even felt as one studies them at different times

of the year and from different directions. For example, the South Row at the Central Ridge Site in Pennsylvania obviously begins at Platform 'B' and advances toward the large Boulder on the summit ridge; the same is true for the two other rows that radiate out from Platform 'B.' Other constructions are subtler, but by following the rows from different directions, one will often perceive a logical flow that a photograph or even a map cannot capture.



Fig. 14. Rock Shelter ('A'), from S. Row-Linked Boulder site, Montville, CT.

The first location we will explore is what I call the Row-Linked Boulders site. It begins at a row adjacent to a large boulder that extends east to the Rock Shelter (Fig. 13, 'A'). The stone row passes in front of the Shelter (Fig. 14), a natural cave-like space 11' deep and $2\frac{1}{2}$ ' high, formed by the bowed shape of a large boulder perched on top of some smaller ones.

The area within the shelter itself has probably filled up considerably with water borne soil over the years. Just to the right of the entrance, the row extends up a steepangled join between two boulders by having rocks wedged into it (Fig. 15), and ends in a loose pile of cobbles at the top.

Not more than thirty feet to the southeast of the Rock Shelter is an unusual split boulder (Fig. 13, 'B'), unusual not because it is split, but in the way it has been highlighted with stonework (Fig. 16). Assuming that the stone row leading to it originated to the east, down slope, the row builder could easily have avoided this obstacle by going either to the left or right of it. Instead, he deliberately aimed the row at the broken edge of the larger stone, and traced the edge with a two-tiered line of stones. As the edge represents the fracture line where the smaller piece broke off, undoubtedly by frost action, it also emphasizes where the energy release was concentrated. Placing stones along it could be interpreted as a way of partaking of this force simply by their being in close proximity to it. The short row bridging the two boulders must have functioned in the same way as the ones at the Oley Hills site (see Figs. 7 and 12).





Fig. 15. Row in join between boulders. Row-Linked Boulder site. Montville, CT.

Fig. 16. Short row between frost split boulder. Row-Linked Boulder site. Montville, CT.

From the split boulder the row heads in the direction of the Rock Shelter, but before reaching it makes a sharp turn to the right (north) and towards a large lichen and moss-encrusted boulder about sixty feet away. This sudden deflection of the row before encountering the rock shelter boulder, is also reflected in another row near point 'D' in Fig. 13, but off the map to the right. We have lost our sensitivity to the land that the Native Americans had, and it could be that they perceived the rows, and their proximity to large boulders, as either having positive or negative polarity – of being attracted or repelled by one or the other.

Beyond the corner, the row advances toward the large moss and lichen encrusted boulder (Fig. 13, 'D'), but seems blocked by a boulder in between it and the larger boulder. One might think that the row builder would have constructed the row to the smaller boulder and continued it on the other side. Instead, and rather humorously, the row is built up so that it climbs over this obstruction (Fig. 17), in a manner reminiscent of an example at the Oley Hills site (Fig. 18). This is an odd, almost impetuous construction, focusing not so much on what is in its path, but the goal at the other end.



Fig. 17. Row over boulder, from E. Row-Linked Boulder site, Montville, CT.



Fig. 18. Row over boulder. South Ridge, Oley Hills site, PA.

Observe that in front of the smaller boulder in Fig. 17 are two boulders connected by a short stone row. On the opposite side of the large boulder, at point 'D,' is a smaller boulder adjacent to it on which rocks have been stacked in such a way that they touch the large boulder (Fig. 19). This does not seem so much as a collapsed cairn as a deliberate, lopsided construction to connect with the large boulder.



Fig. 19. Stone cairn on boulder ('D'). Row-Linked Boulder site, Montville, CT.

The Z-shaped configuration of the stone rows at this site is completed by the stone row that extends outward and to the west from the boulder at 'C,' navigating through a small field of boulders, an impressive one perched upright, and ending at another large boulder 40 feet away.

Although they are not part of this discussion, to the northeast of the boulder at 'D' are about four very large erratics scattered about an open wooded area. One or two must be a good fifteen

feet high, and against several of them small piles of stones have been stacked in a manner similar to the boulder from the Oley Hills site (Fig. 9).

Montville Row-Linked Glacial Erratics Site



In the northwest corner of Montville, in a region that used to be part of the common land of New London, is a rough and wild area that contains an unusual assortment of stone rows and boulders central to the subject of this report (Fig. 20).

The three erratics are set deep in the woods and are surprisingly difficult

Fig. 20. Map of Row-Linked Glacial Erratics site, Montville, CT.

to locate owing to a lack of landscape features nearby and the fact that the boulders are situated in the shadow of a hill. In summer and winter the gray color of the erratics camouflages them against the dull gray-green color of the hillside and the tree trunks. They appear distinct only when one is nearly upon them. Curiously, all three boulders are linked by low, meandering, crude stone rows, which consist of large blocks of local gneiss measuring 18-20" across, laid either end to end or in some instances piled another. on top of one



Fig. 21. Row leading to boulder 'A', from W. Row-Linked Glacial Erratic site, Montville, CT.

The most convenient route to the first large boulder is by following a row that begins at the top of a ridge, about one-quarter mile to the southeast of the boulder. By a rather circuitous route, this row meanders to boulder 'A,' ending in a line of single rocks that engages it at the southeast corner (Fig. 21). This boulder measures 20' x 22' x c.12' high, and appears to consist of granite rather than the local gneiss.

Around the other side of the boulder, a 32' long row of stones appears to emerge and engage the

southeast corner of Goat Rock, one of the largest known glacial erratics in the Montville and New London areas. Measuring 23' high x 25' x 22', it has a roughly oblong-shaped base and a powerful wedge shaped profile when viewed from the side. At the southwestern corner of the boulder, is a 'V'shaped enclosure formed by two stone rows meeting an oval 19' long boulder to the north. This is an open 'enclosure', and given the low height of the walls, it may have perhaps served some kind of purpose other than an animal pen, especially since this is the largest boulder in the group and the only one with this feature (Fig. 22).

From the western end of the smaller boulder a stone row emerges and heads in a nearly northerly direction. 145' from the boulder, and near a corner, the row becomes suddenly higher before turning to the northwest, and reverting to its normal low profile. At this point on the row meanders down a slope 300 more feet to meet erratic 'C' (see Fig. 20, inset), which is the last in this group and about the same size as erratic 'A.' Since there are no signs of former human habitation in this lonely, isolated area, and with the stone rows providing no evidence that they were built to mark property boundaries or to clear fields, we are left with the realization that they were probably constructed simply to lead to and connect with the large erratics.



Fig. 22. Goat Rock ('A') from N. Row-Linked Glacial Erratic site, Montville, CT.

About one half-mile northeast of Goat Rock, and just north of Stony Brook Reservoir, is another interesting feature that I call the Montville Perched Boulder Site (Fig. 23). It consists of two large perched boulders, one on top of the other, that jut out over the edge of a steep ridge. Both boulders are of

Montville Perched Boulder Site



Fig. 23. Map of Perched Boulder site, Montville, CT

gneiss, but whether they are of the same stone that is found in the area has not yet been determined.

There is no path directly to the boulders, and one has to bushwhack up the steep hillside. The route I took left a cart path near a pond and cut through thick brushy woods. About a hundred yards from the path, I encountered a low, crude stone row that angled up the steep slope toward the two perched boulders on the ridge crest, pointing the way toward them (Fig. 24). The boulders jutted out over the ridge and formed an impressive silhouette against the skyline. About forty feet from the boulder, the row petered out, unable to maintain its form owing to the steepness of the slope.



Fig. 24. Row Leading to Perched Boulder, from SW. Perched Boulder site, Montville, CT.



Fig. 25. Row and enclosure leading to Perched Boulder, from N. Perched Boulder site, Montville, CT.

The slope looked daunting, and so I walked around to the right (east) and approached the boulders from this direction. When I finally reached the ridge crest and the boulders, I discovered a second row from the east pointing to the boulders, and then another from the north, along which was constructed a square stone enclosure, with a small opening facing northwest (Fig. 25). All three rows were like the crosshairs of a gun sight, with the perched boulders being in the center.

While the arrangement of the stone rows with the perched boulders was interesting, most intriguing was the stone enclosure integrated into the north-oriented stone row. The inside measurements of this structure were 3' x 7', large enough to sit or stand in, but a rather poor choice for a shelter, and it appeared to have been built at the same time as the row itself. Since it seemed fairly obvious that the construction of the three stone rows was tied into the perched boulders, the stone enclosure must have had something to do with them, too. It could very well have served a ritualistic function such as a prayer seat, which is a low stone enclosure shaped much like a horseshoe, where supplicants of the Algonkian-speaking Indian tribes would go to fast and pray as part of the vision quest ritual. However, the Montville enclosure bears little resemblance to those mentioned by other authors (Chartkoff 1983, Mansfield 1980, Reeves 1994), which were usually located on a desolate ridge overlooking a sacred peak. It turns out that not all prayer seats were in high, windswept areas. Dawson (1981) has studied some small enclosures along Lake Superior, which he calls 'invocation structures' or 'oracle grots,' which supposedly were used for the vision quest ritual. Although these are round or oval structures, it is not beyond the realm of possibility that a square enclosure could have served the same purpose. From the enclosure the two perched boulders are an awesome sight, and we know that native peoples the world over were often drawn to such stones and unusual locations because of the spiritual energy that was thought to be contained within them (Tilley 1996). Interestingly, the bottommost boulder has a somewhat faded, yellow painted inscription on it, which shows that even in today's society, powerful looking rocks still have a strong pull on our psyche.

In this report I have attempted to show that early tribes of Native Americans in the Northeast – the ones who were probably here long before the Colonists landed on these shores in the seventeenth century – constructed ritualistic stonework. This is an idea that has been vehemently denied by professional archaeologists for more than a century (Morgan 1881), with little evidence for their position other than the opposing side had not presented good, solid arguments to the contrary. The evidence for native stonework, however, is so extensive that it no longer can be ignored. To continue to do so means more sites destroyed through ignorance, and a sad obliteration of our native heritage, one that is a profound reflection on the landscape that was held sacred.

The stonework discussed herein was sometimes constructed to define and enhance certain landscape features, such as ridgelines and ledges, but in many cases it emphasized unusual large boulders, and those modified by erosion and frost action into unusual physical configurations which thereby attains spiritual power. We cannot completely penetrate the mind of the row builders, whoever they were and when they might have lived; but as I have attempted to show, they sometimes left little clues in their construction methods that aid us in interpreting the stonework. It is a humbling experience to suddenly realize that Native American stonework of a ritualistic nature still exists in the East, preserved simply because it does not appear to be important to contemporary Americans. The prevailing idea seems to be that they are, after all, just stone walls.

The Native Americans held all of nature sacred, including the rocks and ledges that are a part of it. According to Joan and Roman Vastokas (1973), the Algonkian Indians considered "Boulders, rocky hills, and outcroppings with unusual dimensions or character, such as clefts, holes, or crevices, ... especially charged with manitou and often conceived as the dwelling-places of mythological creatures." This was written in reference to the Peterborough Petroglyph site in Ontario, Canada, an area of bare limestone rock crisscrossed with deep and wide fissures, some of which have been incorporated into petroglyphs of female figures, implying that from mother earth comes all life. All of the boulders described in this report are certainly distinctive, having "unusual dimensions and character," and one can easily understand through this comparison why special attention was directed at them.

While there continues to be strong support for the colonial interpretation of stone walls in the Northeast among archaeologists and historians, curiously as we go beyond the borders of the Northeastern part of the United States and explore other regions, the resistance toward Native American wall construction remarkably lessens. Faulkner (1996), in his updated study of the Old Stone Fort in Tennessee, remarked that the construction of the earthen walls at the site seems to have been the primary ritualistic activity. And earlier, Philip Smith (1962), then a Harvard University graduate student in archaeology, wrote a fascinating report on unusual stone walls found at various locations in northern Georgia. Toward the end of his report he concluded with the following statement:

"At a number of the sites, particularly Fort Mountain, Sand Mountain, Lookout Mountain, Rocky Face Mountain, and possibly Kensington, Brown's Mountain and Ladd Mountain, one of the most striking features is the apparently deliberate purposefulness by which large boulders and outcrops were tied in with the walls. In some cases the walls seem to make deliberate detours to link themselves with the larger rocks. Also striking at some of the sites is the suggestion that conscious effort was made to link widely-scattered areas of steep bluffs together by means of the walls. One is thus led to consider the possibility that this may have been the real raison d'etre of the walls – to link certain impressive natural phenomena such as boulders or bluffs which may have held some religious, symbolic or

animistic significance to the people concerned."

The more I read this, the more I think that Smith could very well have been describing the sites presented in this report.

Acknowledgements

I am deeply indebted to the following individuals, from whom I have learned much about the subject of stone rows, and for providing inspiration and guidance during the research and writing phases of this report. In alphabetical order, I would like to thank: Jon Chase, who first showed me two sites in Montville; Professor Charles Faulkner, who provided encouragement all along the way; James Mavor, whose book Manitou has been a source of constant inspiration; the late Mark Strohmeyer, who first told me about Manitou and his friend Fred Werkheiser; Ros Strong, vice-president of the New England Antiquities Research Association and a generous friend; John Waltz, colleague, woodsman and surveyor; Peter Waksman, who read this report and offered sound advice on how to improve it; and Fred Werkheiser, who early on recognized the importance of the Oley Hills site and guided me through it. In addition, words cannot express my gratitude to the owners of the land on which the Oley Hills features lie, who were most gracious in allowing me to walk over the fascinating landscape innumerable times.

Text and illustrations © N.E. Muller 1999.

References

Allport, S. 1990. Sermons in Stone: The Stone Walls of New England and New York. New York: 89.

Baker, H.A. 1896. A History of Montville, Connecticut. Hartford, CT.

Buckwalter, T.V. 1957. Pre-Cambrian Geology of the Boyertown Quadrangle. Unpaginated. Pennsylvania Geological Survey 4th, 1919. Topographic and geologic atlas of Pennsylvania, No. A197.

Castleden, R. 1993. The Making of Stonehenge. London and New York: 93-97.

Chartkoff, J.L. 1983. A Rock Feature Complex from Northwestern California. *American Antiquity* 48: 745-760.

Clark, G.M. et al. 1993. *Central Appalachian Periglacial Geomorphology*. A Field Excursion Guidebook. Agronomy Series Number 120. Pennsylvania State University.

Conuel, T. 1997. Sacred Sites in the New England Landscape. *Sanctuary* (The Journal of the Massachusetts Audubon Society). September/October: 10-12.

Dawson, K.C.A. 1981. Prehistoric Stone Features on the Relict North Shore Cobble Beaches of Lake Superior. *Megaliths to Medicine Wheels: Boulder Structures in Archaeology*. Wilson, M., K.L Road and K.J. Hardy, eds. Calgary, Alberta: 298-311.

Dix. B.E., Mavor, J.W. Jr. 1982. Stone Chambers, Indians and Astronomy: A Critique of Vermont's Stone Chambers. *Vermont History* 50: 181-191.

Faulkner, C.H. 1996. The Old Stone Fort Revisited: New Clues to an Old Mystery. *Mounds, Embankments, and Ceremonialism in the Midsouth*. Mainforth, R.C and R. Walling, eds. Arkansas Archaeological Survey Research Series No. 46: 7-11.

Foster, D.R. 1999. *Thoreau's Country: Journey Through a Transformed Landscape*, New York and London: 60-65.

Hoffman, C. 1990. People of the Fresh Water Lake, New York: 200.

Leveillee, A. 1997. When Worlds Collide: Archaeology in the New Age – The Conant Parcel Stone Piles. *Bulletin of the Massachusetts Archaeological Society* 58: 24-30.

Mansfield, V. 1980. Big Horn Medicine Wheel as a site for the Vision Quest. *Archaeoastronomy* III, No. 2: 26-29.

Mavor, J.W. Jr and Dix. B.E. 1989. Manitou, Rochester, VT.

Morgan, L.H. 1881. Houses and Home – Life of the American Aborigines. Bureau of American Ethnology, 4.

Muller, N. 1998. Early Stone Cairns and Rows in Eastern Pennsylvania. *NEARA Online Magazine* (<u>http://www.neara.org/</u>). July 27, 1998.

Parker, G.D. 1982. Archaeoastronomy in Vermont? Vermont History 50: 248-255.

Pond, S.W. 1986. The Dakota or Sioux in Minnesota As They Were in 1834. St. Paul, MN.

Reeves, B. 1994. Ninaistákis – the Nitsitapii's sacred mountain: traditional native religious activities and land use/tourism conflicts. *Sacred Sites, Sacred Places*, Carmichael, D.L, J. Hubert, et.al., eds. One World Archaeology 23, New York: 265-296.

Sevon, W. 1999. Personal correspondence to N. Muller, January 21, 1999.

Smith, P.E. 1962. Aboriginal Stone Constructions in the Southern Piedmont. University of Georgia Laboratory of Archaeology Series, Report No. 4. March: 1-47.

Tilley, C. 1996. The powers of rocks: topography and monument construction on Bodmin Moor. *World Archaeology* 28: 161-176.

Trento, S.M 1997. Field Guide to Mysterious Places of Eastern North America. New York: 181-185.

Vastokas, J.M and Vastokas, R.K. 1973. Sacred Art of the Algonkians. A Study of the Peterborough Petroglyphs, Peterborough, Ontario.

Wells, D.A. 1890. Evidences of Glacial Action in Southeastern Connecticut. The Popular ScienceMonthly37:201.

Email Norman E. Muller



Copyright © 1999 by Norman E. Muller

New England Antiquities Research Association