
Review of *Manitou*

by James W. Mavor, Jr. and Byron E. Dix

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Stone structures that serve no present practical purpose are common throughout the world as surviving accouterments of ancient religious cultures, some of which are associated with archaeo-astronomical observations. A famous example is the complex at Stonehenge in southern England. The thesis of this book is that many remains of seemingly primitive but actually sophisticated astronomical observatories exist in North America. They are especially common in New England, but the colonists were too busy farming or trying to convert and also to eliminate the Indians as competing land users to learn about the natives' knowledge of astronomy—parallel to the failure of Spanish priests to learn about Maya and Aztec codexes and monuments containing records of pre-colonial history and calendrical astronomy. Many New England colonists probably remembered having seen abandoned similar structures in Europe, but the structures in New England still were being used. Even now their remains are fairly well preserved, because few are in areas adaptable to colonists' or modern farming, and, in fact, many are in rocky glacial topography not at all suitable for agriculture.

About half of the book (first four of 13 chapters plus many illustrations in the last five chapters) describes the structures, most of which consist of field stone or roughly quarried and shaped slabs of Precambrian or Paleozoic metamorphic and intrusive igneous rocks. Shaping of the slabs is uncommon, because only stone tools were available before colonial years. Commonest are loose stones arranged as low walls, rows, mounds, and pavements. Large boulders serve as vertical markers implanted in sockets cut into bedrock, as pedestal stones and balanced rocks, and as bases for stacked rocks and for small piles of cobble-sized stones.

Mavor, James W., Jr., and Byron E. Dix, 1989, *Manitou, The Sacred Landscape of New England's Native Civilization: Rochester, Vermont, Inner Traditions International, 390 pp., 238 figures, paperback, \$16.95*

Some flat slabs were roughly shaped as head-and-shoulder "god stones." More sophisticated are dry-laid structures apparently constructed to divert or control stream flow, or to use as observation seats and as various enclosures. Especially notable are stone-walled and roofed chambers, usually having a straight tunnel-like entrance. Some of these were broad enough to require corbelled construction and very large flat roof slabs. Most rest on rock outcrops from some of which shallow floors were quarried. Occasional stones within and independent of large structures are marked with grids and intersecting lines, apparently a symbolic form of writing. In some areas, earth was used instead of stones for the structures.

Professionally trained archaeologists who note the features at all have written that they are merely abandoned fences, piles of waste rocks, or root cellars built by colonists, giving no credit to pre-colonial age or Indian interests and abilities. The authors, Mavor and Dix, are not professional archaeologists, being a naval architect and an optical-mechanical engineer, respectively. Both acquired an archaeological avocation. Mavor has investigated Thera (Santorini) in the Aegean Sea as the possible locale for Plato's Atlantis story. Dix began his work on a site at South Royalton in east-central Vermont during 1974. The authors met at a conference in Vermont during 1978 and have worked closely together since then. Their studies showed that the axes of most stone chambers and of many stone walls and rows are aligned with distant features such as standing stones, ridge nicks, ridge peaks, or steep slopes along ridges. Commonly, these axes and their fore-sight extension points originally marked the position on the horizon of the rising or setting of the Pleiades or of bright stars (Sirius, Rigel,

and others) just before or just after their seasonal periods of invisibility during daylight hours. The risings and settings of bright stars and the dates of rising and setting sun at solstices and equinoxes have had meaning to many other ancient cultures of the world as timings for planting, harvesting, hunting, and other purposes (note the date of Christ's birth accepted by Christians—near the winter solstice, after which the days become longer and the nights shorter).

Stone structures may be dated by various methods. Some were built or augmented during colonial or later times, as indicated by marks of steel tools and the presence of donation goods (bottles and even bedsprings obtained from colonists). Only a few radiocarbon ages (A.D. 1370 to 1660) are presented in the book. Other dates, back to 3150 B.C., are computed from shifts of the points of rising and setting of prominent stars caused by precession of the equinoxes (about 26,000 years for a complete cycle). Even though some structures are in fairly good shape now although obscured by subsequent forest growth, others may have fallen apart to leave only piles of loose stones that must be excavated to determine their original foundation plans. Clearly, the best way to learn more about intended uses of the structures would be to ask their builders, but they are long vanished and they left no written descriptions. Only their stoneworks or earthworks remain as circumstantial evidence.

Interpretations of these structures led the authors to believe that the builders considered themselves as just a part of nature, unlike Judeo-Christians whose mission according to *Genesis* is to subdue and master nature. Such discussions of the relationship of the stone and earth structures to natural topography and to the natives' religion comprise the middle chapters of the book plus much of the contents of the last five

chapters that attempt to combine knowledge of the stone structures with the spiritual beliefs of their builders. An important part of early Indians' insight into nature must have been the geometry of the heavens as observable without telescopes. Their god-head belief, according to the authors, was in Manitou (the book title), or "the spiritual quality possessed by every part or aspect of nature, animate or inanimate . . . aspects of the natural world that are sensed but not understood." This philosophy seems to have been retained by later Indians—showing a long-term affinity rather than a conflict with nature.

The authors' interpretation that stone structures were built and used by Indians was understood and appreciated by very few colonists and by few modern archaeologists. Neither author is a trained archaeologist, yet they have shown that the Indians had more astronomical knowledge than had previously been acknowledged and that there is a wealth of archaeological remains in New England that has been ignored by archaeologists. This is a prime example of a junction between different fields of science where something can be learned by cooperation between archaeologists and archaeoastronomers. If the book goes to another edition, this reviewer recommends that a little more explanation be given to astrogeometry for the benefit of lay readers. Also about one-third of the sketch maps need a north arrow to aid readers.

The book should be of interest to New England hikers and hunters who frequent the woodlands and commonly may see "stone fences" and other stone structures. The thoughts and opinions in the book may give readers new interests and provoke new thoughts, allowing them some concept of prior cultures in the region where we now live and work—even in Woods Hole and Falmouth.

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