

Celestial Hieroglyphics: Cometographia of *The Scarlet Letter*¹

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It has been noted so many times that we no longer need to repeat the fact that, in *The Scarlet Letter*, the pattern of a red letter A against a black background is repeated over and over again and then inscribed in words as the epitaph at the end. One of its variations is the meteor against the midnight sky in Chapter 12 “The Minister’s Vigil.”² The scene is an important one as it is the middle one of the three scaffold scenes around which, according to F. O. Matthiessen, “symmetrical design is built.”³ It also marks the transformation of the letter A’s original significance, as the sexton on the next morning interprets it as Angel at the end of the chapter. The very next chapter “Another View of Hester” mentions that the letter has now come to bear the meaning of Able to represent Hester’s helpfulness.

This meteoric A has often been discussed in terms of symbolism. Rita K. Gollin, for example, reads it as “a celestial accusation” for Arthur Dimmesdale. Terence Martin notes a split between the sexton’s public interpretation and the minister’s private one. Charles Swann makes a contrast between Hawthorne’s respect for the communal interpretation and his condemnation for the private one. Richard Kopley regards it as the “chiasmus Sun of Righteousness.”⁴ The private sin, in other words, is made public through Dimmesdale’s sick imagination to read significance in the meteor. Taken for granted in most cases is the superstitious bent of mind of those living in Boston in the mid-seventeenth century and Hawthorne’s elaborate use of their mind set.

The meteoric appearance, however, on the night of John Winthrop’s death in 1649 is itself a fiction. There is no record of comet or meteor in the year of 1649, though there was one in the year of John Cotton’s death in 1652, as Increase Mather notes in his *Kometographia*.⁵ More than a rhetori-

cal device is needed to explain this fictitious meteor. This essay attempts to situate the meteoric scene in its double historical contexts—one in the mid-seventeenth century of Puritan Boston and another in the mid-nineteenth century of the publication of *The Scarlet Letter*.

The two dates, two centuries apart, correspond incidentally to the two important transformations in epistemological frameworks—one often referred to as the Scientific Revolution(s) in Old England and the other the Industrial Revolution in New England. Whereas the first is characterized as one from deduction relying on the Aristotelian-Scholastic authority to induction emphasizing the importance of observation and experiment, the second established the modern frameworks based on disciplinary specialization and industry mass production.⁶ The word “scientist,” for example, was invented by an English William Whewell in the 1830s to indicate a rising figure in contrast to the traditional “natural philosopher” or “man of science.” The word “technology” was proposed around the same period by an American Jacob Bigelow to replace the long-established useful/practical arts. Both terms were very unpopular then and took time to be accepted.⁷

The meteor in the second scaffold scene, then, may serve as an example to compare two astronomical worldviews separated by two centuries—the one undergoing the test of observation and experiment and the other specialized science serving mass-producing technology.

1

Though there were no significant differences between meteors and comets until the twentieth century, they underwent changes in their theoretical or natural philosophical explications in the history of astronomy.

In the Middle Ages, when the earth was still considered the center of the universe and the planets moving around it on their respective invisible spheres (and playing the “music of the spheres” inaudible to human ears), meteors and comets were sublunar (below the moon) phenomena, atmospheric effluvia and therefore subject not of astronomy but of meteorology (originally “study of atmospheric change”). Tycho Brahe, in late-sixteenth

century, measured the parallax of comets and concluded that they were far above the moon. Galileo Galilei, displacing the earth from its central position in the universe, still denied comets' periodicity, even though suspicious of their portentous meanings. Then came Edmund Halley, who actually calculated the orbit of a comet (which now bears his name) as an object beyond the Solar System.⁸

Of course, these were intellectuals supported by a Danish king (Tycho), belonging to the Lynx Academy (Galileo) or the Royal Society (Halley) and they did not share folk belief about comets and meteors. Two lines from Act II, 2 of William Shakespeare's *Julius Caesar* (1599) reflects a more popular reaction to comets: "When beggars die there are no comets seen:/ The heavens themselves blaze forth with the death of princes." Comets and meteors were favorite subject material for William Blake, both in poems and pictures. As late as 1840, English painter John Martin's picture *The Eve of the Deluge* portrays a comet as an ill omen.⁹

On the other side of the Atlantic, astronomy enjoyed its own popularity. The Governor's son, also named John Winthrop, elected Fellow of the Royal Society, was the first to own telescopes in the colony with which he observed the great comet of 1680. Another colonial contribution worthy of note is Samuel Danforth's *An Astronomical Description of the Late Comet* (1665). Evinced his knowledge of the latest astronomy (such as the comet's supralunar character), he nevertheless ends with "a brief theological application of this strange and notable appearance in the heaven," including John Cotton's death in 1652. Increase Mather's *Kometographia* (1683) also contains the latest astronomical knowledge of the age but lists "divine providence" attending them from Chapters III to X (the book has only ten chapters). There he certainly notes the comet of 1652, perhaps the first notable one in his own lifetime, with a note to deaths of "[t]he Pope and the King of Bohemia," but fails to mention that of John Cotton—an in-law relative whose family name he would use in naming his own son.¹⁰

Sometime between the generations of the father and the son a change in the view of comets/meteors must have reached the colony. Cotton Mather, in *The Christian Philosopher* (1720), cites Isaac Newton's authority in explaining

the comet only to prove God's providence (hence "Christian" Philosopher), though the book's over-all structure still follows the classical model of the universe—starting with elements from the supralunar world of light and stars, to the sublunar world of heat (i.e. fire), atmosphere (i.e. air), water and earth in that order—to be followed by a chain of being on earth down from minerals up to man. By the 1760s, though, comets and meteors became, at least to the intellectuals, subjects of observation rather than awe and wonder, to wit, John Winthrop, fourth generation from the Governor, gave two lectures on comets and wrote letters on meteors to the Royal Society of London.¹¹

The nineteenth-century, nicknamed "the century of comets," witnessed a boom in observations of astronomical phenomena—encouraged, of course, by the improvement in telescopes and other observational instruments.¹² Some of the examples observed in the early-century American East were the Leonid meteoric shower (1833), the returns of Comet Halley (1835) and Encke's Comet (1833, 1838 and 1842)—the last of which is mentioned in Edgar Allan Poe's "The Unparalleled Adventure of one Hans Pfaall"(1835).¹³

Comets/meteors were popular subjects in American magazines from the early to mid-nineteenth century. *North American Review*, for example, published articles on "Encke's Comet"(1822), "Modern Astronomy"(1825), "Meteors"(1843), "Modern Theoretical Astronomy"(1861) and book reviews (1815, 1836 and 1843).¹³ As the year advanced, the magazine articles tended to move away from folk culture to become more theoretical, away from descriptions of individual cases to offer more general overview.

Hawthorne himself was not immune to this popular craze, as meteors and comets dot his works. Meteors blaze upon Perseus on his way to hunt Gorgon (7:27), the Old Apple Dealer rushes to a far-off city "with a meteoric progress"(10:445), the Select Party is lead to the saloon where a meteor is suspended on each pillar (10:58), Issac Newton in "Biographical Stories" is said to spend whole nights gazing "at the stars, and the comets, and the meteors"(6:237). The Hawthornes traveled in Italy with Maria Mitchell, who had discovered a comet in 1847 with a telescope, and they viewed Donati's Comet together in Florence.¹⁴

With this brief overview of the history of meteoric/cometary astronomy, let us now turn to the second scaffold scene to consider the meaning of the meteor against the night sky.

2

The art historian Roberta J. M. Olson, discussing the relationship between eroticism and comets during the nineteenth century, notes: “Comets and their cousins, meteors or shooting stars, were discreet allusion to adultery,” as in *The Scarlet Letter*.¹⁵ Though her point is persuasive in art, the emphasis in the second scaffold scene is not so much on adultery itself as on Dimmesdale’s consciousness about it.

In fact, the meteor in this chapter is first introduced as “a light gleamed far and wide over all the muffled sky”(1:153)—a medium disfiguring the familiar sight in town. It shines upon Dimmesdale, Hester and Pearl on the scaffold, enabling the last to spot Chillingworth far off. Then follow old interpretations of the meteor in the mid-seventeenth century Boston: meteors and other natural phenomena occurring with “less regularity than the rise and set of sun and moon”(1:154) were interpreted as revelations from a supernatural source.¹⁶

This meteoric revelation is questioned in the middle of the paragraph from the mid-nineteenth century viewpoint. The “awful hieroglyphics, on the scope of heaven” might serve as “a celestial guardianship of peculiar intimacy and strictness” for the infant commonwealth but, in contrast to the communal interpretation, a lonely eyewitness is always suspected of his credibility.

It is only then and there that Dimmesdale’s reading of an immense letter A is mentioned. The narrative there, however, avoids identifying an individual who discovers a personal revelation in the meteor:

In such a case, it could be the symptom of a highly disordered mental state, when a man, rendered morbidly self-contemplative by long, intense, and secret pain, had extended his egotism over the whole expanse of nature,

until the firmament itself should appear no more than a fitting page for his soul's history and fate. (1:155; emphasis added)

Though the term "a man" indeed suggests Dimmesdale, his identity is not revealed till the next paragraph when "the disease in his own eye and heart" is attributed to the minister. The interpretative authority, first charged on the superstitious communal mind, is then transferred to a highly disordered mental state of an individual and to the minister whose optical and mental disease may have disfigured the meteoric prophecy.

Note, moreover, that even the shape of the meteor itself is vague enough: "Not but the meteor may have shown itself at that point, burning duskily through a veil of cloud"(1:155). It is not the meteor itself that spells out the letter A in the sky but the medium of cloud through which the meteor is seen "so little definiteness." Even its shape is questioned, making a contrast to the meteoric warning for the Puritan community: "a blazing spear, a sword of flame, a bow, or a sheaf of arrows" for an Indian warfare or "a shower of crimson light" for pestilence (1:154-155).

This elaborate narrative strategy shows that Hawthorne was well aware of the transformations in the view of comets/meteors between the ages of 1650 and 1850: he could just as well be sympathetic as critical to the colonial decoding of the celestial hieroglyphics. This judgmental suspension makes it possible to give priority back to the colonial communal interpretation over the personal one, as the letter A at the end of this chapter comes to bear a shared meaning of Angel and, from the next chapter on, Hester's A starts to take on the meaning of Able to the community. Situated in the double historical situation, the meteor thus signals the point of turning the public interpretation to the private and then returning the private back again to the public, though in a sense different from Dimmesdale's apprehension.

The meteor comes to bear an additional meaning when the very passage where the meteor is first mentioned is examined. As soon as the minister replies to Pearl's request, "But the daylight of the world shall not see our meeting!"(1:153), the meteor's blaze brightens up the midnight town as if it were noon:

It showed the familiar scene of the street, with the distinctness of mid-day, but also with the awfulness that is always imparted to familiar objects by an unaccustomed light. (1:154)

The meteor, then, serves as a substitute for the sun, a virtual daylight that brings strangeness out of the familiar, though it is not “the daylight of the world” that makes the familiar matter-of-fact.

The meteor as a virtual daylight has its counterpart in “The Custom-House.” This unusually long introduction, fictionalizing the romance writer’s inability for imaginative work in the house of bureaucracy, makes a contrast between daylight and moonlight. While the daylight world of daily life suffocates the imaginative faculty, the moonlight, investing the familiar scene with “a quality of strangeness and remoteness”(1:35), works on imagination. But the moonlight alone is not enough. It takes “the somewhat dim coal-fire” to turn what “the cold spirituality of the moonbeams” summons up into fictional characters. As it is said, “It converts them from snow images to men and women”(1:36). Here the coal-fire is a virtual sun—warm enough to make snow images humanized but weak enough to melt them.

In this sense, the second scaffold scene is a reenactment of the “neutral territory” scene in “The Custom-House.” The “unaccustomed light” of the meteor, in this sense, is a light to un-Custom-House—to free the romance writer from the daily routine of the daylight but protect him from the cold spirituality of the moonbeams and keep him within humanized imagination of the somewhat dim coal fire.

This correspondence explains why a meteor should appear in the very central chapter of *The Scarlet Letter*. A medium of light, illuminating but not dazzlingly bright, is necessary to bring out a transformation suitable for characters and thus for the romance itself. The meeting under the meteor gives Hester “a new theme of reflection”(1:166) and, with it, a new relationship is formed among the main characters: “Hester and the Physician” (Chapter 14), “Hester and Pearl”(Chapter 15) and “The Pastor and His Parishioner”(Chapter 17).

This also explains why the fictional meteor should appear on the night of John Winthrop's death and not John Cotton's. It signifies the end of the first generation of the Puritans and thus signaled the change in the communal attitude toward the letter A on Hester. It also signifies the weakening of the influence of the imaginary Puritan forefathers in "The Custom-House" for the romance writer who can hear their scorn:

"Who is he? [...] A writer of story-books! What kind of a business in life,—what mode of glorifying God, or being serviceable to mankind in his day and generation,—may that be? Why, the degenerate fellow might as well have been a fiddler!" (1:10)

A question still remains: did Hawthorne know the difference between meteors and comets?

The answer is most probably yes, taking account of the famous "Maria's Comet" much talked about in and after 1847. The answer is again yes, when comets circulate around the sun and return to the field of our vision years later, meteors are, as described in the text itself, those objects being observed "burning out to waste, in the vacant regions of the atmosphere" (1:154). The meteor cannot be repeated, just as the corporal relations between Hester and Dimmesdale shall not be repeated despite the former's declaration: "What we did had a consecration of its own"(1:195).

Notes

- 1 The original version of this paper was delivered at the Nathaniel Hawthorne Society Meeting, Bowdoin College on June 14, 2008 and subsequently published on web at Hawthorne in Salem: <http://www.hawthorneinsalem.org/ScholarsForum/MMD2683.html>. This article is the second of three-part paper on *The Scarlet Letter*.
- 2 All citations of Hawthorne are to the *Centenary Edition of the Works of Nathaniel Hawthorne*, ed. William Charvat et al. 23 vols. (Columbus: Ohio State UP, 1962-1993) and are indicated by volume and page numbers.
- 3 F. O. Matthiessen, *American Renaissance: Art and Expression in the Age of Emerson and Whitman* (London: Oxford UP, 1941), 275.

- 4 Rita K. Gollin, *Nathaniel Hawthorne and the Truth of Dreams* (Baton Rouge: Louisiana State UP, 1979), 150; Terence Martin, *Nathaniel Hawthorne* (Chapel Hill: U of North Carolina P, 1983), 114; Charles Swann, *Nathaniel Hawthorne: Tradition and Revolution* (Cambridge: Cambridge UP, 1991), 85; Richard Kopley, *The Threads of the Scarlet Letter: As Study of Hawthorne's Transformative Art* (Newark: U of Delaware P, 2003), 104-106.
- 5 Increase Mather, *Kometographia; or a Discourse Concerning Comets* (Boston, 1683; Kessinger, n.d.), 111-112. The same comet is listed in the Appendix of Donald K. Yeomans, *Comets: A Chronological History of Observation, Science, Myth, and Folklore* (New York: John Wiley & Sons, 1991), 419.
- 6 Among many books on the Scientific Revolution(s) since 1990s, most notable ones (and thus useful for our studies) concerning the importance of observation and experiment are by Steven Shapin and by Peter Dear and published by the University of Chicago Press: Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (1994); Dear, *Discipline and Experience: The Mathematical Ways in the Scientific Revolution* (1995); Shapin, *The Scientific Revolution* (1995); Christopher Lawrence and Shapin, *Science Incarnate: Historical Embodiment of Natural Knowledge* (1998); Dear, *The Intelligibility of Nature: How Science Makes Sense of the World* (2006).
- 7 For a discussion of William Whewell and his Bridgewater Treatise *Astronomy and General Physics, Considered with Reference to Natural Theology* (1833), see Hiroko Washizu, "Orreries: Mechanical and Verbal," in *Visions of the Industrial Age, 1830-1914: Modernity and the Anxiety of Representation in Europe*, eds. Min-soo Kang and Amy Woodson-Boulton (Burlington: Ashgate, 2008), 249-267. A detailed bibliography on Whewell is available in its notes. For a discussion of Jacob Bigelow and his *Elements of Technology [...] on the Application of the Sciences to the Useful Arts* (1829) and *The Useful Arts, Considered in Connexion with the Application of Science* (1840), see Hiroko Washizu, "Road to American Technology" (in Japanese) in *Daughters of Time: Art and Nature in Antebellum American Prose* (Tokyo: Nanundo, 2005), 29-52. A detailed bibliography on the birth of American technology is available in its notes.
- 8 For the history of meteoric/cometary astronomy, see, besides chapters in books, David W. Hughes, "The History of Meteors and Meteor Showers," *Vistas in Astronomy* 26 (1982): 325-345; Yeomans, *Comets*; Fred Schaaf, *Comet of the Century: From Halley to Hale-Bopp* (New York: Springer-Verlag, 1997); Sara J. Schechner, *Comets, Popular Culture, and the Birth of Modern Cosmology* (Princeton: Princeton UP, 1997). For the atmospheric implication of meteor and meteorology, see G. J. H. McCall, *Meteorites and Their Origins* (New York, John Wiley & Sons, 1973), 22; John C. Brandt and Robert D. Chapman, *Introduction to Comets* (Cambridge: Cambridge UP, 1981), 3-7.
- 9 For the Shakespearean quotation, see Williy Ley, *Visitors from Afar: The Comets* (New York: McGraw-Hill, 1969), 11; John C. Brandt and Robert D. Chapman,

- Introduction to Comets* (Cambridge: Cambridge UP, 1981); Roberta J. M. Olson, *Fire and Ice: A History of Comets in Art* (New York: Walker, 1985), 46; Schechner, *Comets*, 71; Roberta J. M. Olson and Jay M. Pasachoff, *Fire in the Sky: Comets and Meteors, the Decisive Centuries, in British Art and Science* (Cambridge: Cambridge UP, 1998), 289. For Blake, see Olson, *Fire and Ice*, 83-86; Schaaf, *Comet*, 241; Jay M. Pasachoff and Roberta J. M. Olson, "Comets and Meteors in 18th and 19th Century British Art and Science," *Space Physics* 30.3 (1995): 156-162; Olson and Pasachoff, *Fire in the Sky*, 80-95. For the Martin picture, see Olson, *Fire and Ice*, 86-87; Olson and Pasachoff, *Fire in the Sky*, 197-201; Gerald Finley, "The Deluge Pictures: Reflections on Goethe, J. M. W. Turner and Early Nineteenth-Century Science," *Zeitschrift für Kunstgeschichte*, Bd60., H.4 (1997): 530-548.
- 10 For John Winthrop, Jr., see Donald K. Yeomans, "The Origin of North American Astronomy—Seventeenth Century," *Isis* 68.3 (1977): 414-425. Samuel Danforth, *An Astronomical Description of the Late Comet or Blazing Star; As it appeared in New-England in the 9th, 10th, 11th, and in the beginning of the 12th Moneths, 1664. Together with a Brief Theological Application thereof*, ed. Paul Royster (Cambridge: Samuel Green, 1665; Libraries at University of Nebraska—Lincoln, 2006). A comparison with John Bainbridge's *An Astronomical Description of the Late Comet* (1619) shows Danforth's closer relation to the early seventeenth-century English astronomy than to Newton and Halley. See Bainbridge, *An Astronomical Description of the Late Comet from the 18. of Nouemb. 1618 to the 16. of December following. With certaine Morall Prognosticks or Applications drawne from the Comets motion and irradiation amongst the clestiall Hieroglyphics* (London, 1619; Amsterdam: Theatrum Orbis Terrarum, 1975). Mather, *Kometographia*, 112. See also: Andrew P. Williams, "Shifting Signs: Increase Mather and the Comets of 1680 and 1682," *EMLS* 4 (December 1995): 1-34. For Puritan sermons emphasizing theological design behind natural disasters, see Maxine Van de Weterring, "Moralizing in Puritan Natural Science: Mysteriousness in Earthquake Sermons," *Journal of the History of Ideas* 43 (July 1982): 417-438.
- 11 Cotton Mather, *The Christian Philosopher*, ed. Winton U. Solberg (Urbana: U of Illinois Press, 1994). See also Michael P. Winship, "Prodigies, Puritanism, and the Perils of Natural Philosophy: The Example of Cotton Mather," *William and Mary Quarterly*, 3d ser. 51.1 (January 1994): 92-105. John Winthrop, *The Scientific Work of John Winthrop*, ed. Michael N. Shute (New York: Arno Press, 1980). For Winthrop's astronomical contribution, see Frederick G. Kilgour, "Professor John Winthrop's notes on sun spot observation (1739)," *Isis* 29.2 (1940): 355-361.
- 12 For the importance of improvements in the telescope in the 1830s, see Hiroko Washizu, "The Man in the Moon: 'The Moon Hoax' and the Telescope," *Review of American Literature* 19 (2004): 32-70. A detailed bibliography on the telescope is available in its notes.

- 13 For Poe's "The Unparalleled Adventure of One Hans Pfaall" discussed in terms of the balloon, see Hiroko Washizu, "Coordinates in the Sky," in *Daughters of Time*. A detailed bibliography on the balloon is available in its notes.
- 14 The magazine research is made on web through "Making of America" at Cornell University Library: <http://cdl.library.cornell.edu/cgi-bin/moa/moa-cgi?notisid=ABR0102-0056-10>. Other examples include: *The New-England Magazine* published "The Comet and the Cholera" (1832) and "Meteoric Shower" (1834), *New England Review* carried "The Meteoric Shower" (1834) and *New Englander and Yale Review* "Modern Astronomy" (1844). *Harper's New Monthly Magazine* ran "Shooting Stars and Meteoric Showers" (1850), "A Possible Event" (1852) and "Astronomical Observatories in the United States" (1856). Even *The Living Age*, weekly with generous use of articles from other magazines, printed "The Expected Great Comet" (from *The Saturday Review*, 1858), "Comets" (from *The Press*, 1861), "Comets" (from *The Saturday Review*, 1861) and a book review (from *The British Quarterly Review*, 1858).
- 15 For Maria Mitchell, see Anna C. Brackett, "Maria Mitchell," *The Century: A Popular Quarterly* 38.6 (Oct 1889): 954; Phebe Mitchell Kendall, *Maria Mitchell: Life, Letters, and Journals* (Boston: Lee and Shepard, 1896); Renee Bergland, *Maria Mitchell and the Sexing of Science: An Astronomer Among the American Romantics* (Beacon Press, 2008). Acknowledgment to Melinda Ponder for recommending me Bergland's book.
- 16 Olson, *Fire and Ice*, 87.
- 17 This reading of unusual natural phenomena is true to the history of astronomy or, for that matter, the history of ideas: miracles and wonders were God-ordained signs for human beings to speculate upon His design. For the history of the idea of natural/supernatural, see Lorraine Daston and Katharine Park, *Wonder and the Order of Nature 1150-1750* (New York: Zone, 1998).
- 18 Acknowledgment to William Sell (The Last Word, Milwaukee) for editorial assistance.