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John Tresch

Unsettled by doubt, we reach for matter; we clutch a tool, pound a table, drive a spike into the earth. We think our grip on something solid will catapult us past uncertainty, deception, delusion. But grasping for solidity often leaves us displaced. The more anxiously we reach, the quicker terra firma recedes. This is the case when we study the “material culture” of matter itself—when historians of science, for instance, inspect devices of observation and inscription in chemistry, physics, or the earth sciences. Though often taken to be more reliable than fugitive perceptions or beliefs, instruments in action are revealed as temperamental links in fragile chains of mediation, riddled with gaps. We see the sustained efforts needed to stabilize phenomena—glass, light, dirt—and the tremendous labor involved in getting people to agree that a given technical setup speaks reliably for the world.¹ Looking closely at theories of matter leads to even more puzzling detours. Historians of physics gather tracings that reveal vast empty spaces in seemingly solid matter; they chase diagrams marking particles’ oscillation into and out of existence.² Treating the molecular structure of metals and crystals, we find patterns of latent motion

1. See Simon Schaffer, “Glass Works: Newton’s Prisms and the Uses of Experiment,” in *The Uses of Experiment: Studies in the Natural Sciences*, ed. David Gooding, Trevor Pinch, and Schaffer (Cambridge, 1989), pp. 67–104; Bruno Latour, “The ‘Pedofil’ of Boa Vista: A Photo-Philosophical Montage,” *Common Knowledge* 4 (Spring 1995): 144–87; *Things That Talk: Object Lessons from Art and Science*, ed. Lorraine Daston (Cambridge, Mass., 2004); and Bill Brown, “Thing Theory,” *Critical Inquiry* 28 (Autumn 2001): 1–22.

2. See Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, N.C., 2007); Peter Galison, *Image and Logic: A Material*

and force, a molten potentiality at the heart of what appeared firm and inert; we slip into the vortices and eddies of the recurring materialism of Epicurus.³

Today's new materialisms and object philosophies pursue such paradoxes, shaking high-modern certainties about both the merely material and the purely human.⁴ Yet the fact that these theories reference sources like Friedrich Schelling, Henry David Thoreau, and H. P. Lovecraft suggests that such novelties were old hat by the early nineteenth century, the crucible of both modernity and of modern matter.⁵ Tossed by revolutionary tempests, natural philosophers debated the existence and nature of elemental units, the forces cementing them, and the "imponderable fluids" of light, heat, electricity, and magnetism: Were these particles traveling in straight lines or undulating waves in an invisible, elastic ether?⁶ Some tested propositions of Joseph Priestley, Roger Joseph Boscovitch, and Immanuel Kant that see material points as the junction of dynamic polarities; experimenters intoxicated by Schelling's *Naturphilosophie* placed the

Culture of Microphysics (Chicago, 1997); and David Kaiser, *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics* (Chicago, 2009).

3. See Bernadette Bensaude-Vincent, *Eloge du mixte: Matériaux nouveaux et philosophie ancienne* (Paris, 1998); Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, N.C., 2009); and Michel Serres, *The Birth of Physics*, trans. Jack Hawkes (Manchester, 2000).

4. See *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham, N.C., 2010); Manuel De Landa, *A Thousand Years of Nonlinear History* (New York, 1997); Graham Harman, "Materialism Is Not the Solution: On Matter, Form, and Mimesis," 24, no. 47 (2014): 94–110; and Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis, 2013).

5. See Bennett, *The Enchantment of Modern Life: Attachments, Crossings, and Ethics* (Princeton, N.J., 2001); Harman, *Weird Realism: Lovecraft and Philosophy* (Alresford, 2012); Iain Hamilton Grant, *Philosophies of Nature after Schelling* (London, 2008); and Ben Woodard, *On an Ungrounded Earth: Towards a New Geophilosophy* (Brooklyn, N.Y., 2013). See discussions of Poe in Eugene Thacker, *Horror of Philosophy*, 3 vols. (Alresford, 2011–15), esp. vol. 2, *Tentacles Longer Than Night*.

6. Robert Fox, "The Rise and Fall of Laplacian Physics," *Historical Studies in the Physical Sciences* 4 (1974): 92.

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empirical into contact with the transcendental, noumenal, and supernatural. Such uncertainties saturated European and American public culture in the 1830s and 1840s, tingeing science, the arts, and theology.⁷

Edgar Allan Poe's writings crystallized within these restless solutions. His "Ultima Thule" daguerreotype of 1848—where the nattiness of his moustache and garb are undercut by his shattered gaze—is fixed in collective memory, thanks in part to his translator, Charles Baudelaire, who framed him as the poet of an otherworldly beauty and of a "love as eternal and mute as matter" (fig. 1).⁸

This essay aims to melt this frozen, otherworldly Poe and put him into motion. Gilles Deleuze once asked his readers to imagine "a *philosophically* bearded Hegel, a *philosophically* clean-shaven Marx."⁹ In a similar spirit, we will contemplate a Poe without a moustache and perhaps even stranger, a Poe with sideburns—as he appears in early sketches and in his first daguerreotype portrait.¹⁰ Similarly shorn, he appears in one of the first interior photographs taken in the US, inside Philadelphia's Academy of Natural Sciences, accompanied by skull-collector Samuel Morton and future paleontologist Joseph Leidy. Neither floating in a realm of ideal forms nor sunk into a gutter of infamy, here he sits in smart striped trousers amidst the skeletons, displays, instruments, and professionals of the expanding natural sciences, the light from his form captured by a dazzling new device (fig. 2).¹¹

The momentum given to Poe's work by the scientific and technological maelstrom of the early nineteenth century has yet to be fully reckoned.¹² Anticipating today's media theory and new materialisms, Poe deployed

7. See Immanuel Kant, *Metaphysical Foundations of Natural Science*, trans. and ed. Michael Friedman (Cambridge, 2004); John Yolton, *Thinking Matter: Materialism in Eighteenth-Century Britain* (Minneapolis, 1983); and Friedman, "Kant—*Naturphilosophie*—Electromagnetism," in *Hans-Christian Oersted and the Romantic Legacy in Science*, ed. Robert Brain, Robert Cohen, and Ole Knudson (Dordrecht, 2007), pp. 135–58.

8. Charles Baudelaire, "La Beauté," *Les Fleurs du mal* (Paris, 1857), p. 46.

9. Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London, 1994), p. xx.

10. See Kevin Hayes, "Poe, the Daguerreotype, and the Autobiographical Act," *Biography* 25, no. 3 (2002): 477–92.

11. See Benjamin McFarland and Thomas Peter Bennett, "The Image of Edgar Allan Poe: A Daguerreotype Linked to the Academy of Natural Sciences of Philadelphia," *Proceedings of the Academy of Natural Sciences of Philadelphia*, no. 147 (1997): 1–32.

12. Among the works that have examined this influence, see Carroll Dee Laverty, "Science and Pseudo-Science in the Writings of Edgar Allan Poe" (PhD diss., Duke University, 1951); Maurice Lee, "Probably Poe," *American Literature* 81 (June 2009): 225–52; John Limon, *The Place of Fiction in the Time of Science: A Disciplinary History of American Writing* (Cambridge, 2009); *The Science Fiction of Edgar Allan Poe*, ed. Harold Beaver (Harmondsworth, 1976); Edward Sugden, "Simultaneity-across-Borders: Richard Henry Dana Jr., Alexander von Humboldt, Edgar Allan Poe," *J19* 2, no. 1 (2014): 83–106; and many others cited below.

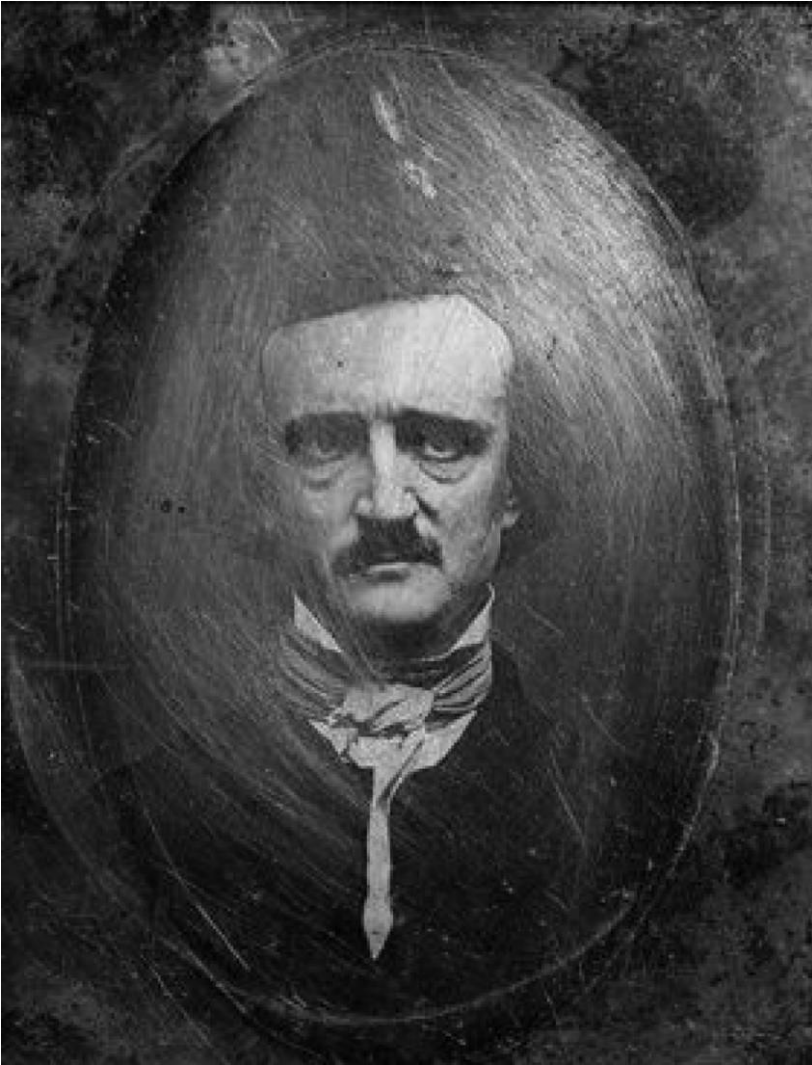


FIGURE 1. “Ultima Thule” daguerreotype (contemporary copy) of Edgar Allan Poe, 9 November 1848. Morgan Library.

and reflected on the printed word as a power just as concrete and effective—and ultimately as elusive—as a scientific instrument or machine.¹³ In constant movement among poetic, philosophical, technical, and scientific

13. See Adam Frank, “Valdemar’s Tongue, Poe’s Telegraphy,” *English Literary History* 72, no. 3 (2005): 635–62.

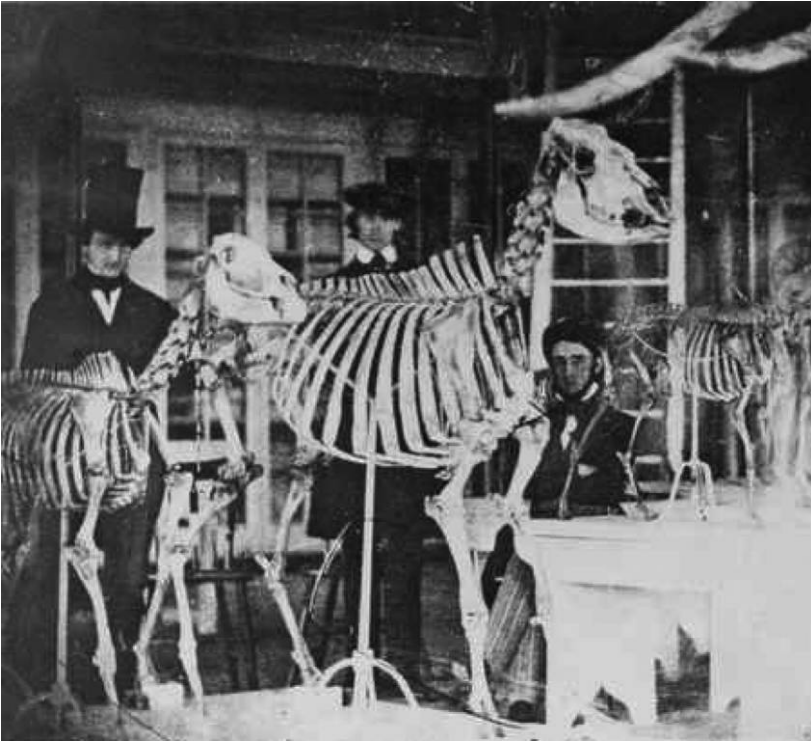


FIGURE 2. Left to right: Samuel Morton, Joseph Leidy, and Poe (seated), in Academy of Natural Sciences, Philadelphia, 1840s; see McFarland and Bennett on attribution. Courtesy Academy Natural Sciences.

registers, Poe's experiments push past current inquiries into the material basis of meaning and the demiurgic powers of media to probe the depths of matter itself.¹⁴

Poe's poetics, and his politics—especially regarding mass culture and race and his national and transnational positioning—are still being explored as flares into the obscurities of an emerging commercial and military empire.¹⁵ Such fruitful inquiries can be taken further. Poe demanded

14. See Friedrich A. Kittler, *Discourse Networks 1800/1900*, trans. Michael Metteer and Chris Cullens (Stanford, Calif., 1992), and Daniel Tiffany, *Toy Medium: Materialism and Modern Lyric* (Berkeley, 2000).

15. See Joan Dayan, "Amorous Bondage: Poe, Ladies, and Slaves," *American Literature* 66, no. 2 (1994): 239–73; *Poe and the Remapping of Antebellum Print Culture*, ed. J. Gerald Kennedy and Jerome McGann (Baton Rouge, La., 2012); McGann, *The Poet Edgar Allan Poe: Alien Angel* (Cambridge, Mass., 2014); Teresa Goddu, "Rethinking Race and Slavery in Poe Studies," *Poe Studies/Dark Romanticism* 33, no. 1–2 (2000): 15–18; Terence Whalen, *Edgar Allan Poe and the Masses: The Political Economy of Literature in Antebellum America* (Princeton, N.J.,

to be contextualized in the broadest possible terms: “An infinity of error,” he wrote, “makes its way into our Philosophy, through Man’s habit of considering himself a citizen of a world solely—of an individual planet—instead of at least occasionally contemplating his position as a cosmopolite proper—as a denizen of the universe.”¹⁶ At stake in Poe’s work, like that of many of his contemporaries, was the cosmological order of modernity. In the press and in popular lectures, rivals fretted the proper order and relations among humans, divinities, and nonhumans, as well as the domain and definition of matter itself. In projects for building institutions and empires, they sought to define and impose the contents, categories, and best means of knowing the universe. These contests were thoroughly cosmopolitical in the sense advocated by Isabelle Stengers, Bruno Latour, and Stephen Toulmin.¹⁷

In the early nineteenth century, a recognizably modern notion of science and nature was coalescing, forged of three key elements: *mechanism*, *materialism*, and *objectivity*—or MeMO for short.¹⁸ Although this image of truth was given strength by technical, political, and military conquests that presented themselves as the result of scientific rationality, it was in many respects an unstable synthesis. Each term had its own twisted genealogy, drawing on multiple sources, splitting into diverse streams; the reach and character of the compound they formed varied by speaker, sect, discipline, and region.¹⁹ Such a cosmological orientation could never secure the universal assent, completeness, or infallibility that its promoters or critics habitually attributed to it; even if it reached hegemonic status by the middle of the twentieth century, it was constantly threatened both by its internal blind spots and by external challenges.²⁰ Other traditions and

1999); Jonathan Elmer, *Reading at the Social Limit: Affect, Mass Culture, and Edgar Allan Poe* (Stanford, Calif., 1995); Dana D. Nelson, “The Haunting of White Manhood: Poe, Fraternal Ritual, and Polygenesis,” *American Literature* 69 (Sept. 1997): 515–46; Kennedy, “‘A Mania for Composition’: Poe’s *Annus Mirabilis* and the Violence of Nation-building,” *American Literary History* 17 (Spring 2005): 1–35; and Jennifer Rae Greeson, *Our South* (Cambridge, Mass., 2010).

16. Edgar Allan Poe, “Marginalia 15,” *Southern Literary Messenger* 15 (June 1849): 267.

17. See Isabelle Stengers, “The Cosmopolitical Proposal,” in *Making Things Public: Atmospheres of Democracy*, ed. Latour and Peter Weibel (Cambridge, Mass., 2005), pp. 994–1003; Latour, *Politics of Nature* (Cambridge, Mass., 2009); and Stephen Toulmin, *Cosmopolis: The Hidden Agenda of Modernity* (Chicago, 1992).

18. In this mnemonic, readers may hear echoes of *memo*, the official, xeroxed, anonymous diktat from the head office; *meme*, as in the impersonal, self-replicating unit of predatory evolutionism; and *Nemo*, Greek for “no-one,” name of Jules Verne’s submarine captain, both technocrat and anarchist, invisibly and anonymously at work in the depths.

19. On the entwining of the histories of mechanism and objectivity, see Daston and Galison, *Objectivity* (New York, 2007); on materialism, see nn. 1–6 above.

20. See Latour, *We Have Never Been Modern* (Cambridge, Mass., 1993); Paul Forman, “On the Historical Forms of Knowledge Production and Curation: Modernity Entailed

alliances have continuously proposed cosmic inventories and cosmographies at odds with MeMO's image of truth.²¹

Yet, by the early nineteenth century, powerful scientific reformers and institution builders were aggressively proposing MeMO-based representations of the cosmos as the only true basis not only for nonhuman nature but for human thought, government, and religion. Historians of science have exposed the complexities, gaps, and internal contradictions within these "major" visions of science. They can also be juxtaposed with the many "minor" cosmographies flourishing outside, alongside, and at times within the emerging imperial centers of scientific authority.²² In the US in an era that nurtured Mormons, Shakers, Baptists, African Methodist Episcopalians, Swedenborgians, Gileadists, phalansterians, mesmerists and spiritualists, we can see Poe's as among the most striking of these other natures.

Their alternative cosmographies are worth retrieving now. An exaggerated faith in MeMO has made industrial exploitation, economic growth, and a realpolitik of material interests seem inevitable, hastening the great acceleration of economic and industrial expansion of the past sixty years. The ensuing destabilization of our ecological and economic systems puts cosmopolitical questions directly before us. As each day jolts us with disturbing evidence of a nature both at our mercy and out of our hands, we would do well to consider cosmological dispositions other than MeMO. Poe's consistently inconsistent natural philosophy, like other occulted traditions, can speak to us again.²³

Disciplinary, Postmodernity Entails Antidisciplinarity," *Osiris* 27, no. 1 (2012): 56–97; and Paul Erickson et al., *How Reason Almost Lost Its Mind: The Strange Career of Cold War Rationality* (Chicago, 2013).

21. As Marshall Sahlins put it: "Just as Galileo thought that mathematics was the language of the physical world, so the bourgeoisie have been pleased to believe that the cultural universe is reducible to a discourse of price—despite the fact that other peoples would resist the one idea and the other by populating their existence with other considerations" (Marshall Sahlins, "Cosmologies of Capitalism: The Trans-Pacific Sector of 'the World System,'" in *Culture/Power/History: A Reader in Contemporary Social Theory*, ed. Nicholas B. Dirks, Geoff Eley, and Sherry B. Ortner [Princeton, N.J., 1994], p. 416). For a recent example, see Marisol de la Cadena, "Indigenous Cosmopolitics in the Andes: Conceptual Reflections beyond 'Politics,'" *Cultural Anthropology* 25, no. 2 (2010): 334–70.

22. See James Secord, *Visions of Science* (Chicago, 2015), and John Tresch, *The Romantic Machine: Utopian Science and Technology after Napoleon* (Chicago, 2012).

23. See Will Steffen, Paul J. Crutzen, and John R. McNeill, "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?" *AMBIO* 36, no. 8 (2007): 614–21; Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35 (Winter 2009): 197–222; and *Textures of the Anthropocene: Grain, Vapor, Ray*, ed. Katrin Klingan et al. (Cambridge, Mass., 2014).

The material technologies of the sciences—with their power to isolate, capture, freeze, compare, and measure phenomena, to establish equivalences, to chart relations—are tools for world making. So are the media of communication. For Poe, plotting the cosmos meant navigating a mercurial institutional landscape and interrogating the physical slippages of a decentered, newly mechanized information order. To follow him means crossing disciplinary and ontological boundaries as well as the Mason-Dixon line; it also means stepping across disintegrating maps in which new realities were proposed, stabilized, and unraveled.

Matter out of Place

The second quarter of the century saw heightened transnational entanglement of imperial projects on both sides of the Atlantic. Political revolutions were followed and provoked by an industrial revolution.²⁴ Historians of science speak, too, of a second scientific revolution at this time, marked by precision measurement, expansive views in geology and astronomy, standard languages and methods, new principles of order in comparative anatomy, and a growing professional identity.²⁵

These combined revolutions—and the likelihood of more to come—summoned the sciences to an expanded role in public life. European savants sought to make the conduct of reason an activity exclusive to sanctioned bodies for teaching, research, and publicity: academies, universities, and national and international professional societies. While many worked to promote a “major” scientific cosmology, other “minor” knowledges vied for authority in a range of settings. These cosmopolitical challenges were frequently allied to political unrest in the wake of the Napoleonic Wars, where rising demands of workers and ascendant middle classes challenged established institutions and doctrines.

One of the most incendiary notions, associated with godless philosophes and revolutionaries, was that of a self-organizing vital matter. It challenged the existence not only of an independent, eternal soul but of the omnipotent creator. Joseph Priestley, chemist and Unitarian, spelled out his views in *Disquisitions on Matter and Spirit*, denouncing Anglican theologians for presenting matter as base and stupid and denying its power in deliberate analogy with their treatment of the lower classes.²⁶ In

24. See Christopher Bayly, *The Birth of the Modern World, 1780–1914: Global Connections and Comparisons* (Oxford, 2004).

25. See *From Natural Philosophy to the Sciences: Writing the History of Nineteenth-Century Science*, ed. David Cahan (Chicago, 2003).

26. See Joseph Priestley, *Disquisitions Relating to Matter and Spirit: To Which Is Added the History of the Philosophical Doctrine Concerning the Origin of the Soul, and the Nature of Matter*

the 1820s, the physician William Lawrence proclaimed that the specificity of living and conscious beings was due to the arrangement of their tissues and organs. Unlike his teacher, John Abernethy, who saw life as a distinct, transcendental principle animating passive matter, Lawrence thought vitality was immanent to matter.²⁷ Resonating with transformist comparative anatomy from Jean-Baptiste de Lamarck and Etienne Geoffroy Saint-Hilaire, this lively materialism replaced permanence with change. Following the Continental lead of Franz Gall and Johann Spurzheim, George Combe of Edinburgh systematized correlations between the shape of the skull and character in a materialist key, arguing that uniform natural laws applied not only to astronomy and physics but to the origin of species and to thought. No miracle required.²⁸

Faced with dissent verging on revolt, eight prominent Anglican divines and natural philosophers in England composed, between 1830 to 1840, the *Bridgewater Treatises*, digests of a science that was “safe” for conservative Protestantism.²⁹ William Whewell’s entry, *On Astronomy and General Physics*, showed how divinely sustained law made possible a perfect adaptation among parts of the physical world; without God, visible equilibria would run down, matter would lose coherence.³⁰ Secondary laws might well explain organic structure and function, yet their origin required the miraculous intervention of God. Whewell and his coauthors took the argument from design—knowledge of God’s perfection through observing the mutual adaptation of each element of his creation—as confirmation

Etc. (Birmingham, 1782). Among many replies, see John Whitehead, *Materialism Philosophically Examined, or The Immateriality of the Soul Asserted and Proved, on Philosophical Principles; in Answer to Dr. Priestley’s Disquisitions on Matter and Spirit* (London, 1778).

27. See Leon S. Jacyna, “Immanence or Transcendence: Theories of Life and Organization in Britain, 1790–1835,” *Isis* 74, no. 3 (1983): 311–29. Lawrence was Percy Shelley’s physician and influenced both his poetry and politics; see Sharon Ruston, *Shelley and Vitality* (New York, 2005).

28. See George Combe, *The Constitution of Man Considered in Relation to External Objects* (Boston, 1837); Secord, *Visions of Science*; and Roger Cooter, *The Cultural Meaning of Popular Science: Phrenology and the Organization of Consent in Nineteenth-Century Britain* (Cambridge, 1984).

29. See Jonathan R. Topham, “Beyond the ‘Common Context’: The Production and Reading of the *Bridgewater Treatises*,” *Isis* 89, no. 2 (1998): 233–62. On the politics of the “age of the spirit of the age,” see James Chandler, *England in 1819: The Politics of Literary Culture and the Case of Romantic Historicism* (Chicago, 1999), p. 78.

30. See R. M. Young, “Natural Theology, Victorian Periodicals, and the Fragmentation of a Common Context,” *Darwin’s Metaphor: Nature’s Place in Victorian Culture* (Cambridge, 1985), pp. 126–63, and J. H. Brooke, “The Natural Theology of the Geologists: Some Theological Strata,” in *Images of the Earth: Essays in the History of the Environmental Sciences*, ed. L. J. Jordanova and Roy Porter (Chalfont, 1979), pp. 39–64.

of the inevitability and goodness of the existing social hierarchy.³¹ They helped stabilize the notions of a single method, organization, and professional identity for natural philosophy (Whewell even coined the term *scientist*).³² In defining the visible world as consisting primarily of mute, passive matter subject to mechanical laws, they preserved the role of God as supernatural origin and sustainer of creation.

For today's readers, the publication of the *Bridgewater Treatises* illuminates a striking paradox: the concept of inert, passive, inanimate matter—crucial for modern, “secular” science—was not consolidated by radicals, Jacobins, atheists, or Unitarians. Instead, this dead, controllable matter was the philosophical offspring of the marriage between classical atomism and Protestant theology. In defending the miraculous action of God, they were forced to make the stuff of his creation uniform and passive.³³

While European savants could draw on existing traditions to strengthen their institutional positions and suppress dissent, US scientific reformers were in many senses beginning from scratch. Closely aligned with the *Bridgewater Treatises* authors and other European savants—Alexander von Humboldt, Edward Sabine, Charles Babbage, Friedrich Gauss, and François Arago—the enterprising American men of science Alexander Dallas Bache, Joseph Henry, Benjamin Peirce, and their allies plotted a national museum, university, and academy of science to serve as central clearinghouses for specimens, data, and training and as the highest courts for natural knowledge. Jokingly calling themselves the Lazzaroni after Neapolitan beggars, they insisted on the value of “abstruse” science, promising the federal government the technical knowledge to administer “commerce and navigation, naval or military concerns, the customs, the light-houses, the public lands, post-offices and post-roads” and to prepare and administer imperial expansion west and south.³⁴

31. See William Kirby, *On the History, Habits, and Instincts of Animals*, 2 vols. (London, 1835).

32. See Schaffer, “Scientific Discoveries and the End of Natural Philosophy,” *Social Studies of Science* 16, no. 3 (1986): 387–420, and Laura J. Snyder, *The Philosophical Breakfast Club: Four Remarkable Friends Who Transformed Science and Changed the World* (New York, 2011).

33. In this they remained faithful to Isaac Newton's version of mechanical philosophy as explicated by Samuel Clarke when debating Newton's rival, Gottfried Leibniz, in the early eighteenth century; see Steven Shapin, “Of Gods and Kings: Natural Philosophy and Politics in the Leibniz-Clarke Disputes,” *Isis* 72 (June 1981): 187–215.

34. Quoted in Hugh Richard Sloten, *Patronage, Practice, and the Culture of American Science: Alexander Dallas Bache and the US Coast Survey* (Cambridge, 1994), p. 41; hereafter abbreviated *P*. See Robert V. Bruce, *The Launching of Modern American Science, 1846–1876* (Ithaca, N.Y., 1988), and George H. Daniels, *American Science in the Age of Jackson* (Tuscaloosa, Ala., 1994).

Resistance against these elite centralizers wasn't lacking. They faced regional tensions—over slavery, the proper level at which to organize government, and multiple conceptions of empire and its “natural” seat—as each state sought to corner westward expansion. In a blow against northern business interests and successors to federalism, President Andrew Jackson dismantled the Second National Bank in the 1830s. Local elites were reluctant to cede power and prestige to national organizations; politicians denied requests for massive outlays; and military and naval experts were convinced that expertise and contracts should be in their hands.

A boisterous, skeptical press mocked them all. Steam-powered presses and cheaper methods of producing paper had opened the floodgates to monthly and weekly journals and magazines and penny dailies; literacy grew. Roads, canals, railroads, and telegraphs forged new markets, and restless audiences eagerly followed sensational reporting and debates, often in reprints and pirated copies. In these multiplying circuits, it could be hard to tell signal from noise; relentless misattributions, errors, and hoaxes allowed authors to assume diverse identities behind unsigned works.³⁵

Henry wrote to Bache in 1837 after a tour of Europe: “The charlatan-ism of our country struck me much more disagreeably when I first returned than before or even now. I often thought of the remark you were in the habit of making that we must put down quackery or quackery will put down science” (P, 28).³⁶ Scientific reformers were both challenged and—sometimes worse—supported by legions of self-styled experts performing and proclaiming discoveries, cures, and cosmologies. In the Second Great Awakening, traditional faiths were reanimated with evangelical zeal; new religions attracted followers with heterodox conceptions of matter and spirit, as did the moral, metaphysical, and frequently scientific ruminations of Transcendentalism. Such movements could manifest as utopian social experiments, from Brook Farm to New Harmony, ducking both

35. See Meredith L. McGill, *American Literature and the Culture of Reprinting, 1834–1853* (Philadelphia, 2007); Lara Langer Cohen, *The Fabrication of American Literature: Fraudulence and Antebellum Print Culture* (Philadelphia, 2012); Clare Pettit, *Patent Inventions: Intellectual Property and the Victorian Novel* (Oxford, 2004); and Richard John, *Spreading the News: The American Postal System from Franklin to Morse* (Cambridge, Mass., 2009).

36. Such trips were a crucible for early American scientific and technical innovation; Samuel Morse came up with his telegraph code after a European tour in which he discussed electromagnetism with Humboldt at the Louvre. See Kenneth Silverman, *Lightning Man: The Accursed Life of Samuel F. B. Morse* (New York, 2003).

scientific and political authority.³⁷ Similar uncertainties marked performances of science.³⁸ New museums, libraries, lyceums, and athenaeums were sites for poetry, dramatic readings, or musical performance as much as for knowledge, often on the same stage.³⁹ Even Charles Wilson Peale's celebrated Philadelphia Museum was promoted with the teasing imagery of its director drawing back a curtain, suggesting the inseparability of knowledge and showmanship—all the more so when Peale's sober collection was bought by P. T. Barnum, who built epistemic uncertainty into his displays. Barnum presented his Feejee Mermaid as a possible fraud and invited paying visitors to judge for themselves (fig. 3).⁴⁰

In dialogue with phrenology, mesmerism—revived after 1836—likewise thrived in settings and alliances outside traditional academic control. Its practitioners announced a vast new field of exploration for experimentation, emphasizing the importance of verified facts.⁴¹ Mesmerism could probe the paradoxes of exclusionary liberalism by staging dramas of will and submission, both asserting and subverting “natural” hierarchies. When merged with Emanuel Swedenborg's doctrines, it lifted the veil on unorthodox cosmic orders in which thresholds between life and death were crossed at will and in which the ether central to electromagnetism and optics became a universal, quasi-spiritual vehicle for life and thought.⁴²

This unstable epistemological landscape of ideas and factions set the stage for all of Poe's writings. Working in urban centers up and down the Eastern seaboard as author, editor, and typesetter or “compositor,”

37. See John L. Brooke, *The Refiner's Fire: The Making of Mormon Cosmology, 1644–1844* (Cambridge, 1996), and John Lardas Modern, *Secularism in Antebellum America* (Chicago, 2011).

38. See Katherine Pandora, “Popular Science in National and Transnational Perspective: Suggestions from the American Context,” *Isis* 100, no. 2 (2009): 346–58.

39. See Donald Scott, “The Popular Lecture and the Creation of a Public in Mid-Nineteenth-Century America,” *Journal of American History* 66 (Mar. 1980): 791–809, and Angela Ray, *The Lyceum and Public Culture in the Nineteenth-Century United States* (East Lansing, Mich., 2005).

40. See Neil Harris, *Humbug: The Art of P.T. Barnum* (Chicago, 1981); Denis Vidal, “Les Sirènes de l'expérience: Populisme expérimental ou démocratie du jugement,” *Terrain* 46 (Mar. 2006): 67–84; and Conevery Bolton Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York, 2003).

41. See David Schmit, “Re-visioning Antebellum American Psychology: The Dissemination of Mesmerism, 1836–1854,” *History of Psychology* 8, no. 4 (2005): 403.

42. See Alison Winter, *Mesmerized: Powers of Mind in Victorian Britain* (Chicago, 2000). Britt Rusert has examined the political instability of freed blacks' performances of mesmerism on stages in the US and England; see Britt Rusert, “The Science of Freedom: Counterarchives of Racial Science on the Antebellum Stage,” *African American Review* 45, no. 3 (2012): 291–308; See also Emily Ogden, “Beyond Radical Enchantment: Mesmerizing Laborers in the Americas,” in this issue, on the managerial origins of US mesmerism.

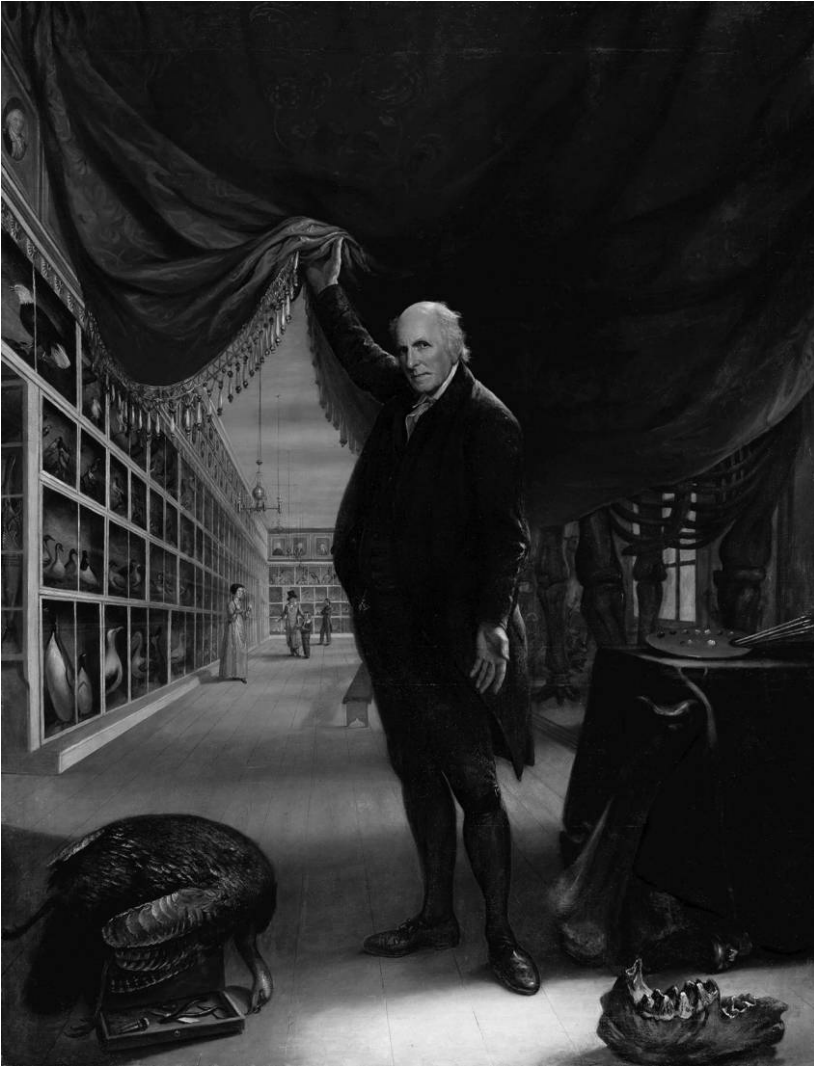


FIGURE 3. Charles Wilson Peale, *The Artist in His Studio* (1822). Pennsylvania Academy of Fine Arts.

dirtying his hands in the skillful creation of words and sentences out of metal letters, Poe was obsessed with the material technologies of printing and its ability or failure to produce the mental or spiritual transformation known as meaning. He habitually sparked and stoked nineteenth-century flame wars, mastering and mocking their clichés.

In “X-ing a Paragrab,” one of his last tales, an editor from the East, “the great Bullet-head,” moves to a small frontier town, Alexander-the-Great-o-nopolis (or simply Nopolis at all) to start a new journal, *The Tea-pot*.⁴³ On arrival he learns that one exists already. In his first issue, Bullet-head launches a preemptive strike on its editor, John Smith, ending: “Oh, no doubt! The editor over the way is a genius —Oh, my! Oh, goodness, gracious!—What *is* this world coming to? *O tempora! O Moses!*”

In reply, Smith ridicules the sputtering sub-Cicero: “Why, the fellow is all *O!* That accounts for his reasoning in a circle, and explains why there is neither beginning nor end to him, nor to anything he says” (“X,” 4:227). Incensed, indignant, Bullet-head makes a Oulipo-worthy resolution to write a response without a single *O*. But no; his honor piqued, he takes up the challenge from the other direction and promises a reply in which “the beautiful vowel—the emblem of Eternity. . . shall most certainly *not be avoided*.” He stays up late composing a rejoinder “as *O*-wy as *O*-wy can be” (“X,” 4:228):

So ho, John! how now? Told you so, you know. Don’t crow, another time, before you’re out of the woods! Does your mother *know* you’re out? Oh, no, no! . . . You’re only a fowl, an owl; a cow, a sow; a doll, a poll; a poor, old, good-for-nothing-to-nobody, log, dog, hog, or frog, come out of a Concord bog. Cool, now —cool! *Do* be cool, you fool! None of your crowing, old cock! Don’t frown so —don’t! Don’t hollo, nor howl, nor growl, nor bow-wow-wow! [“X,” 4:228]

Yet when the manuscript is sent for typesetting, the luckless compositor finds all the *o*’s gone, purloined by the rival journal. Desperate, he makes a quick substitution. The next morning, readers are bewildered by the text:

‘Sx hx, Jxhn! hxw nxw? Txld yxu sx, yxu knxw. Dxn’t crxw, anxther time, befxre yxu’re xut xf the wxxds! Dxes yxur mxther *knxw* yxu’re xut? Xh, nx, nx! . . . Yxu’re xnly a fxwl, an xwl; a cxw, a sxw; a dxll, a pxll; a pxxr xld gxxd-fxr-nxthing-tx-nxbxdy, lxx, dxg, hxg, xr frxg, cxme xut xf a Cxncxrd bxg. Cxxl, nxw—cxxl! Dx be cxxl, yxu fxxl! Nxne xf yxur crxwing, xld cxck! Dxn’t frxwn sx—dxn’t! Dxn’t hxllx, nxr hxwl, nxr grxwl, nxr bxw-wxw-wxw! [“X,” 4:232]

The narrator notes: “The uproar occasioned by this mystical and cabalistical article, is not to be conceived. The first definite idea entertained by the populace was that some diabolical treason lay concealed in the

43. Poe, “X-ing a Paragrab,” *The Works of Edgar Allan Poe*, ed. Edmund Clarence Stedman and George Edward Woodberry, 10 vols. (New York, 1903), 4:228; hereafter abbreviated “X.”

hieroglyphics" ("X," 4:232). With the replacement of *o*'s by *x*'s, the article appears as a cryptogram, an inscrutable text whose true meaning is hidden behind its surface.

In this slight tale, Poe restages the teapot tempests and histrionic duels of printed rivalries, with the press as weapon and battleground for regional and philosophical cliques. It highlights the bathos of an aspiring empire slavishly modeled on classical precedent (Nopolis) and its diverse guiding imaginaries—including the circles of Transcendentalism emanating from the Frogpondians Poe loved to lambaste.⁴⁴ Focused on the compositor's work of grabbing thought by hand, it shows the fraught, unpredictable reliance of ideas, identities, and other "spirits" on the technical, material components of the press: the work of encoding and decoding depended on overworked labor and unreliable audiences, shadowed by constant threat of collapse. More enigmatically, the tale operationalizes negation; its plot turns on the mute, misplaced units of the mechanized print regime, on the difference between voiding *o*'s and negating *x*'s, and on a "diabolical treason" ignorantly enacted by a printer's devil, forging cabalistic hieroglyphs out of ordered error ("X," 4:232).⁴⁵

Boxes, Maps, Codes, Traps

Poe's knowing fascination for the material elements of printing technology was inseparable from his familiarity with the practices and tools of the sciences. Born in Boston, orphaned in Baltimore, and adopted by the tobacco trader John Allan in Richmond, he was disowned after a disastrous year at the bucolic University of Virginia; he joined the army under an assumed name but drew on family connections to enter West Point. There he was drilled in mathematics, navigation, and military engineering along lines set by the *École Polytechnique*. His 1831 collection of poems, dedicated to his fellow cadets, opens with "To Science." The poet asks the goddess Science, whose "peering eyes" chase mythical naiads from the river, elves from the wood, and Diana from her lunar chariot: "How should he love thee? or how deem thee wise?"⁴⁶

Unfolding over the next eighteen years, Poe's answer involved grasping the basic objects of the sciences, turning them around to reveal their hidden potentials and to expose what scientists had overlooked, and putting those potentials back to work. These elemental knowledge media, at once

44. See Greeson, "Poe's 1848: *Eureka*, the Southern Margin, and the Expanding U[niverse] of S[tars]," in *Poe and the Remapping of Antebellum Print Culture*, pp. 123–40.

45. See Brian Rotman, *Signifying Nothing: The Semiotics of Zero* (London, 1987).

46. Poe, "To Science," *The Works of Edgar Allan Poe*, l. 5, 10:106.

material and conceptual, included boxes, maps, and codes.⁴⁷ Natural history, physiology, and agronomical science placed specimens—botanical, animal, human—in labeled and ranked boxes. Navigation, surveying, astronomy, and engineering triangulated points to trace diagrams and maps of territories, routes, and fortifications. Algebra and telegraphy multiplied codes. These unit-tools could be combined and scaled up into new sciences, narratives, or entire cosmologies. They set traps for fugitive phenomena, capturing, freezing, and replicating their essential lineaments. Yet any map had its unknown regions; a box could hide a trapdoor; material chambers might capture or amplify forces that exceeded their bounds; some codes could not be read.⁴⁸

Such upendings of the rudimentary *dispositifs* of scientific knowledge structure Poe's fiction, all the way back to his 1833 "MS. Found in a Bottle." The title itself hints at containment and an improbable scene of decipherment: found by whom, where, how? Setting sail from Jakarta, the narrator is a skeptic whose hyperbolic denial of the supernatural is toppled when he is shipwrecked and then saved by a ghost ship named *Discovery*. Among its outdated maps and instruments he finds the pen and paper to write his tale before the ship, approaching Antarctica, descends into a whirlpool and the narrative breaks. Ancient knowledge overwhelms faithless empiricism; defunct devices provide tools for writing oneself off the map; a current theory in geoscience, the hollow earth of John Symmes, heightens both the factuality and the mystery of the conclusion.⁴⁹ Fantasy brought concrete results: the tale won him fifty dollars and helped him land the editorship for Richmond's *Southern Literary Messenger*.

In Richmond, Virginia's center of government and trade in tobacco, cotton, and humans, Poe sparred with science's ongoing material conquest.⁵⁰ In a review of 1836 he respectfully bestowed on phrenology "the majesty of a science . . . among the most important which can engage the attention of thinking beings."⁵¹ Yet whether material and mechanical laws could explain—or indeed replace—thought itself was the central question

47. On scientific objects as simultaneously material and formal media, see Stefan Helmreich, "Waves: An Anthropology of Scientific Things," *HAU* 4, no. 3 (2014): 265–84, and Helmut Müller-Sievers, *The Cylinder: Kinematics of the Nineteenth Century* (Berkeley, 2012).

48. On Poe's obsessive "construction of the chamber," see Henri Justin, *Poe dans le champ du vertige: Des contes à "Eureka," l'élaboration des figures de l'espace* (Paris, 1991).

49. See Poe, "MS. Found in Bottle," *The Works of Edgar Allan Poe*, 2:222–36.

50. See Gregg D. Kimball, *American City, Southern Place: A Cultural History of Antebellum Richmond* (Athens, Geo., 2003), and Walter Johnson, *River of Dark Dreams* (Cambridge, Mass., 2013).

51. Poe, "Phrenology," *Southern Literary Messenger* 2 (Mar. 1836): www.eapoe.org/works/criticism/slm36m02.htm

of his analysis, in 1836, of Johann Maelzel's chess-playing android, which toured the US, beating chess challengers. Applying the rhetoric of proof in which he had been drilled at West Point, Poe's *SLM* essay subverted arguments from David Brewster's *Letters on Natural Magic to Sir Walter Scott*, including his discussion of Charles Babbage's calculating engine, to assert the impossibility of mechanizing the unpredictable leaps of thought that define chess: "It is quite certain that the operations of the Automaton are regulated by *mind*, and by nothing else. Indeed, this matter is susceptible of a mathematical demonstration, *a priori*."⁵² A living dwarf must be hiding inside the deceptive spectacle of cabinets and gears. Yet, paradoxically, he argued against the possibility of a machine that thinks in thoroughly mechanical terms (fig. 4).⁵³

A logic of unveiling, effects in search of causes, and unbalanced symmetries run through the novel he wrote in Richmond, *Narrative of Arthur Gordon Pym*. According to G. R. Thompson, the book exemplifies the genre of the arabesque as defined by Friedrich Schlegel and later used by Poe to characterize his own tales. In Arabic and Persian designs, repeated figures in engrossing styles form concentric frames around the garden of Paradise—the enclosed symbol of God's limitless perfection. For Schlegel, the literary equivalent was a restless unfurling of tales within tales, multiple digressions and fragments in variable styles, gesturing to the Absolute.⁵⁴ *Pym* is no ordinary map. The plot's geographical movement south and east from Nantucket—on a succession of vessels, from the *Ariel* to the *Grampus*, to the *Jane Guy*, and at last to a feeble canoe—parallels the protagonist's altered states. After weeks entombed below deck, he portrays a dead man to attempt to overthrow a mutiny; crossing the equator, he and his remaining shipmates become cannibals. Along the way, he and his shipmates mirror and split from each other until they meet the all-black inhabitants of the uncharted South Sea island, Tsalal, whose awe for the sailors' guns is matched by that of the whites for the island's marvels (including iridescent, fibrous water and canyons carved in ancient alphabets) and by their susceptibility to the natives' carefully laid trap.⁵⁵ At the novel's

52. Poe, "Maelzel's Chess-Player," *The Works of Edgar Allan Poe*, 9:146.

53. See Jessica Riskin, "The Defecating Duck, or, the Ambiguous Origins of Artificial Life," *Critical Inquiry* 29 (Summer 2003): 599–633.

54. See G. R. Thompson, "The Arabesque Design of *Arthur Gordon Pym*," in *Poe's "Pym": Critical Explorations*, ed. Richard Kopley (Durham, N.C., 1992), pp. 118–213; David Ketterer, *New Worlds for Old: The Apocalyptic Imagination, Science Fiction, and American Literature* (Garden City, N.J., 1974); and Jacob Rama Berman, *American Arabesque: Arabs and Islam in the Nineteenth-Century Imaginary* (New York, 2012), pp. 109–37.

55. Several of Poe's examples were taken from Brewster's *Letters*. See Selma B. Brody, "Poe's Use of Brewster's 'Letters on Natural Magic,'" *English Language Notes* 27, no. 1 (1989): 50–54.

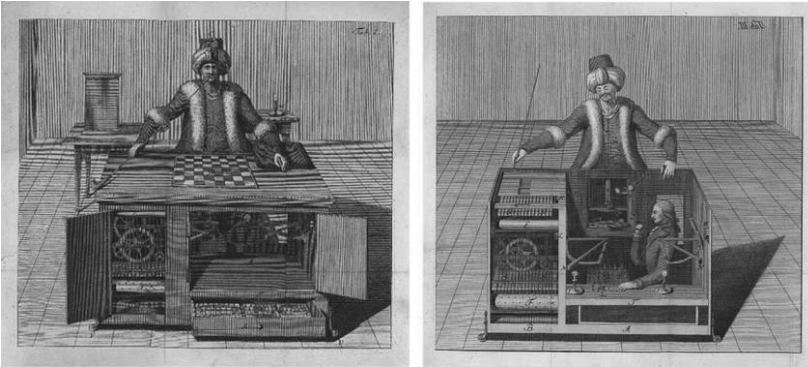


FIGURE 4. Maelzel's chess Playing Turk

close, Pym's canoe is enveloped by a gigantic "shrouded human figure" whose skin was "of the perfect whiteness of the snow"—an annihilation that refigures the self-devouring dance between Pym, his fellows, and his author.⁵⁶ *Pym's* impish games of identification and cannibalization cross a map of concrete ambiguities, drawing relentlessly toward an empty sheet.

In 1838, Poe relocated with his wife and aunt to the center of the nation's scientific, medical, and technical activity, Philadelphia.⁵⁷ Its Academy of Natural Sciences was the nation's preeminent scientific institution, presided over by Samuel Morton, collector of skulls and promoter of the "polygenist" school, which argued (contra *Genesis*) that the different human races were distinctly created species and could be ranked; though later called Confederate science, Morton aligned his craniometry with the free-thinking materialism and phrenology of Combe, who introduced his work and lectured in Philadelphia in 1846.⁵⁸ Philadelphia was also the base of Alexander Bache—like Poe, a West Point cadet, but no orphan; he was great-grandson of Benjamin Franklin, nephew to a vice president. Driven by a paternalist conviction that commerce, industry, and science were best directed by a stable, competent, and moral elite, Bache conducted "science as a business" (quoted in *P*, p. 38). As the director of the US Office of Coast Survey, he remade the bureau into a vast patronage network, funding

On *Pym's* racial thematics, see Toni Morrison, *Playing in the Dark* (New York, 2007), and for a brilliant, hilariously inverted update, see Mat Jonson, *Pym: A Novel* (New York, 2011).

56. Poe, *Narrative of Arthur Gordon Pym*, in *The Works of Edgar Allan Poe*, 5:250.

57. See Simon Baatz, "Philadelphia Patronage: The Institutional Structure of Natural History in the New Republic, 1800–1833," *Journal of the Early Republic* 8, no. 2 (1988): 111–38.

58. See Ann Fabian, *The Skull Collectors: Race, Science, and America's Unburied Dead* (Chicago, 2010), and Stephen Jay Gould, *The Mismeasure of Man* (New York, 1996).

system, and training ground for a generation of scientists; modeled on Alexander von Humboldt's globe-weaving sciences, it also allowed local amateur researchers to contribute to the "scientific national project."⁵⁹ Lobbying for support for national weights and measures, Bache wrote to his uncle: "the object of a system is rather to produce uniformity in all parts of a country than to introduce novelty."⁶⁰ Science at the side of the state would create and enforce this uniformity.⁶¹

Poe described sylvan rambles near Philadelphia (pastoral in "Morning on the Wissahickon," supernatural in "The Island of the Fay"),⁶² yet to reach the woods he passed by Bache's Central High, his electromagnetic observatory at Girard College, and the looming gothic panopticon of the Eastern State Penitentiary.⁶³ His writings often exaggerated the frenzy of method, standardization, and enclosure on display in Franklin's quadrilateral city. "Diddling Considered as One of the Exact Sciences" offered a systematic approach to petty crime; in "The Man That Was Used Up," a heroic general owed his impressive bearing to a mechanized anatomy; Peter Proffit, narrator of the "The Business Man," possessed "stern habits of methodical accuracy" and applied "the good old sober routine of the calling" to ordinary and absurd pursuits from "Cur-spattering" and organ-grinding to "the Assault-and-Battery business."⁶⁴

Yet in Philadelphia, "the Athens of America," Poe perfected his use of the rhetoric and the styles of reasoning of the sciences to establish his own credentials and to provide criteria by which his genius would be recognized. Working as an editor for Philadelphia magazines with national readerships, he made a name through both fiction—first collected as *Tales of the Grotesque and Arabesque*—and science journalism. He published a series on science and art, evaluating claims to inventions and

59. See A. Hunter Dupree, "Central Scientific Organisation in the United States Government," *Minerva* 1, no. 4 (1963): 453–69. On the range of US Humboldtianisms, see Laura Dassow Walls, *The Passage to Cosmos: Alexander von Humboldt and the Shaping of America* (Chicago, 2009).

60. Quoted in Axel Jansen, *Alexander Dallas Bache: Building the American Nation through Science and Education in the Nineteenth Century* (Frankfurt, 2011), p. 98.

61. The unprecedented scale—and imperial ambitions—of US technological infrastructures was noted admiringly by the Saint-Simonian engineer and political economist; see Michel Chevalier, *Lettres sur l'Amérique du Nord* (Paris, 1844); see also Richard R. John, *Network Nation* (Cambridge, Mass., 2010).

62. See Poe, "Morning on the Wissahickon" and "The Island of the Fay," *Collected Works of Edgar Allan Poe*, ed. Thomas Ollive Mabbott, 3 vols. (Cambridge, Mass., 1978), 3:860–66, 2:597–606.

63. See Charles Dickens, *American Notes for General Circulation* (London, 1842).

64. Poe, "The Business Man," *The Works of Edgar Allan Poe*, 4:200, 199, 204. See Poe, "Diddling Considered as One of the Exact Sciences" and "The Man That Was Used Up," *The Works of Edgar Allan Poe*, 4:234–48, 4:44–57.

discoveries and demonstrating his wide scientific learning; in 1839 he published the first of three editions of his *Conchologist's First Book*, co-written with Thomas Wyatt.⁶⁵ Fossilized shells were central to discussions of natural order and the evidence (or absence) of God's design of the universe; he frequently engaged these topics from a variety of angles. Despite some exegetical quibbles, he praised Henry Duncan's *Sacred Philosophy of the Seasons*, a popular digest of the *Bridgewater Treatises'* natural theology, where inanimate natural objects served as clues for God's hidden design. He systematized *interior* design in a "Philosophy of Furniture" and published notes on a "Science of Criticism."⁶⁶

In his series, "Literary America," Poe took on the role of critical phrenologist, applying (and analyzing) the principles of this new science to the heads, writings, and personal qualities of well-known authors; in "Autography" he used signatures, another material trace of character, to the same end.⁶⁷ He penned a further successful series on "secret writing" that challenged readers to submit encoded messages for him to crack; in explaining his seemingly preternatural powers of decipherment, he elaborated on the necessary interplay between method and imagination.⁶⁸ In 1841 he capitalized on these articles' success with his prize-winning story, "The Gold-Bug," in which cryptograms, two-sided maps, invisible writing, feigned madness, double-entendres, and an empty eye-socket pendulum contraption hanging from a tree all led, improbably and enjoyably, to a buried treasure (fig. 5).⁶⁹

Subversion strategies, traps, and doubled messages also furnished thrills in his tales of ratiocination, launched in Philadelphia. His detective, Dupin, a model for Sherlock Holmes, played his intuitive leaps of thought against the plodding police's misguided thoroughness in "The Purloined

65. This seashell-collecting guide, based on Cuvier's classifications, was the most popular work he published in his lifetime. See Poe, Isaac Lea, and Thomas Wyatt, *The Conchologist's First Book, or, a System of Testaceous Malacology* (Philadelphia, 1839), and Stephen Jay Gould, "Poe's Greatest Hit," *Natural History* 102, no. 7 (1993): 10–19.

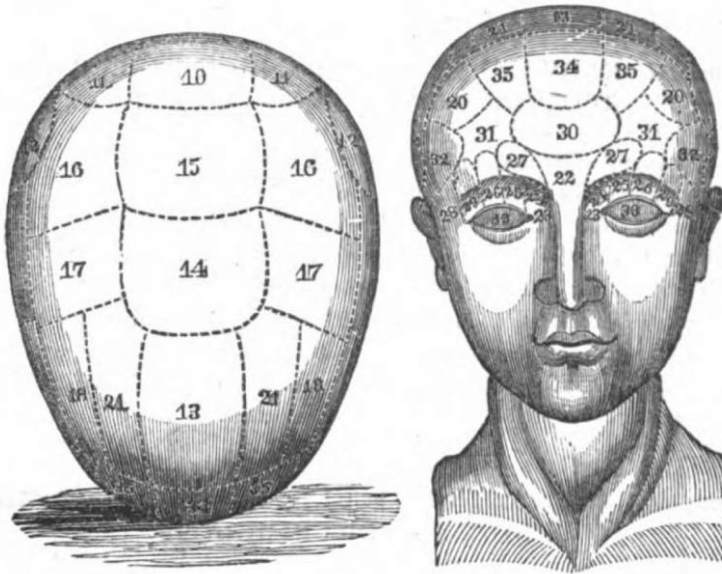
66. See Poe, "Philosophy of Furniture," *The Works of Edgar Allan Poe*, 9:174–82.

67. See Poe, *Literary America: Some Honest Opinions about Our Autorial Merits and Demerits with Occasional Words of Personality*, www.eapoe.org/Works/editions/litamer.htm and "Autography," *Collected Works of Edgar Allan Poe*, 2:259–91.

68. See Poe, "A Few Words on Secret Writing," www.eapoe.org/works/essays/fws0741.htm

69. See Poe, "The Gold-Bug," *The Works of Edgar Allan Poe*, 5:5–52. Marc Shell and Terence Whalen have discussed the relationships between economic and semiotic value, among paper, writing, and gold, along with the conversion between idea and thing. See Marc Shell, *Money, Language, and Thought: Literary and Philosophic Economies from the Medieval to the Modern Era* (Baltimore, 1993), and Whalen, *Edgar Allan Poe and the Masses*; see also Shawn Rosenheim, "The King of Secret Readers': Edgar Poe, Cryptography, and the Origins of the Detective Story," *English Literary History* 56 (Summer 1989): 375–400, and John T. Irwin, *The Mystery to a Solution: Poe, Borges, and the Analytic Detective Story* (Baltimore, 1996).

- 19 IDEALITY.**—*Uses* : Love of the beautiful and splendid, desire of excellence, poetic feeling. — *Abuses* : Extravagance and absurd enthusiasm, preference of the showy and glaring to the solid and useful, a tendency to dwell in the regions of fancy and to neglect the duties of life.



- 20. WIT**—Gives the feeling of the ludicrous, and disposes to mirth.
21. IMITATION—Copies the manners, gestures, and actions of others, and appearances in nature generally.

FIGURE 5. Phrenological map from Combe's *Constitution of Man*, p. 55, with captions for phrenological faculties thematized in Poe's works: ideality, wit, imitation.

Letter”); though they scan every square centimeter of the minister’s hotel, these men of mere fact and talent fail to see the note casually hidden in plain sight.⁷⁰ The key to Dupin’s success was his ability to enter the mind of his opponent, whether the cunning thief at the top of the scale of wit or the murderous orangutan at its bottom in “Murders in the Rue Morgue.”⁷¹ For Poe, the ability to move fluidly between ranks in the scale of intellectual being was the definition of genius. In “Maelzel’s Chess-Player,” he

70. See Poe, “The Purloined Letter,” *The Works of Edgar Allan Poe*, 3:166–90.

71. See S. L. Varnado, “The Case of the Sublime Purloin,” *Poe Newsletter* 1 (Oct. 1968): 27.

asked what it's like to be a machine; later, in *Eureka*, he asked the same of God.⁷²

We might extrapolate from these works that Poe was replacing the unbroken linearity of the classic chain of being—still operative in natural history and cosmology, though undergoing transfigurations⁷³—with an arabesque spatialization of expansive enclosures. In place of a straight line, his universe is one of boxes within boxes, with uncanny passages between levels of hierarchized realities, and at the unreachable center there is a foundational, annihilating absence. He hints at such a structure—interleaving the wondrous and the mechanical—in his much-cited analysis of the daguerreotype, the camera obscura against which he faced off (as we have seen) throughout the 1840s. His observations gleam with enthusiasm, but with characteristic twists:

In truth, the Daguerreotyped plate is infinitely (we use the term advisedly) is *infinitely* more accurate in its representation than any painting by human hands. If we examine a work of ordinary art, by means of a powerful microscope, all traces of resemblance to nature will disappear—but the closest scrutiny of the photogenic drawing discloses only a more absolute truth, a more perfect identity of aspect with the thing represented.⁷⁴

This device captures the empirical surface but also inscribes what would otherwise be insensible; it reveals (with the aid of another object of human art, the microscope) a deeper order and beauty—one advisedly labeled infinite—than could be captured by the naked eye or by ordinary human representation. One image hides another; the chamber encloses a chamber; the curtain lifts to reveal a curtain; each code hides another code. In an arabesque architecture found within a single image or text or across diverse printed spaces, Poe staged multiple and distinct orders of rationality layered upon each other, masking and revealing ever-receding depths.

72. See Poe, *Eureka*, ed. Stuart Levine and Susan F. Levine (Urbana, Ill., 2004), p. 14; hereafter abbreviated *E*.

73. See William F. Bynum, "The Great Chain of Being after Forty Years: An Appraisal," *History of Science* 13 (Mar. 1975): 1–28, and Nick Hopwood, Simon Schaffer, and Jim Secord, "Seriality and Scientific Objects in the Nineteenth Century," *History of Science* 48 (Sept.–Dec. 2010): 251–85.

74. Poe, "The Daguerreotype," *Alexander's Weekly Messenger*, 15 Jan. 1840, www.eapoe.org/works/misc/dgtypea.htm

Vestiges of the Natural History of Composition

In Philadelphia in 1842 Poe filed for bankruptcy, grimly declaring as his only property “his wearing apparel and a few hundred Sheets, of no use to any one else, and of no value to anyone.”⁷⁵ He sought better luck in New York City, whose growing commercial power had made it the center of popular publishing. According to Joseph Henry, the city also possessed “all the quacks and jimcrackery of the land” (quoted in *P*, p. 32). Poe quickly made himself at home. Within days of arriving he published for the *New York Sun*, a penny daily, a special report of a voyage by balloon from England to the US. Following all the conventions of the scientific report, with a detailed, exact journal of one of the voyagers, the article was (according to Poe, at least) widely believed, though it had never happened.⁷⁶

New Yorkers’ enthusiasm (or gullibility) for mesmerism inspired some of Poe’s most artfully ambiguous pieces. His “Mesmeric Revelation,” the conversation of a mesmerized, dying patient, was eagerly reprinted by the leading New York phrenologist, Orson Fowler.⁷⁷ “The Power of Words” of 1845—a dialogue between two spirits—took literally the claim of Charles Babbage in his *Ninth Bridgewater Treatise* that words and emotional expressions leave a material trace on the ether that, in principle, records all of human history; it ends with a “wild star” germinated over centuries by a single human tear.⁷⁸ Elizabeth Barrett Browning wrote to tell him of the credulous reception “The Facts in the Case of M. Valdemar” received in England;⁷⁹ this tale took the form of a medical case report, transcribing an experiment (conducted by a “P”) to keep a mesmerized man alive beyond the point of physical death. After seven months, the attendants attempt to awaken him, and the body instantly decomposes into a “liquid mass of loathsome—of detestable putridity.”⁸⁰ Poe’s mesmeric forays scripted passages through viscous thresholds between life and death and pin-pointed hinges that join and sever body and soul. Like the “The Balloon Hoax,” they also exploited the power of the press and scientific reporting

75. U.S. District Court, District of Pennsylvania, Petition for Bankruptcy, filed 19 Dec. 1842, held in the Philadelphia regional office of the National Archives; thanks to Joanne Schillizzi of the Edgar Allan Poe National Historical Site of Philadelphia who provided me with a copy of this document.

76. See Poe, “The Balloon Hoax,” *The Works of Edgar Allan Poe*, 2:204–21.

77. See Poe, “Mesmeric Revelation,” *The Works of Edgar Allan Poe*, 2:312; hereafter abbreviated “MR.”

78. Poe, “The Power of Words,” *The Works of Edgar Allan Poe*, 1:241.

79. See Elizabeth Barrett Browning, letter to Poe, Apr. 1846, www.eapoe.org/misc/letters/t4604000.htm

80. Poe, “The Facts in the Case of M. Valdemar,” *The Works of Edgar Allan Poe*, 2:334.

to inflate and puncture belief; they enabled a doubled reading that held the tale's veracity in suspension even beyond the grotesque final collapse.⁸¹

Poe's wavering hoaxes—testing relations of will, spirit, and matter—coincided with the publication of *Vestiges of the Natural History of Creation*. The controversy surrounding this popular history of the universe—one of the earliest and most comprehensive treatments of the theory of evolution in English and reprinted in dozens of editions in the US—was stoked by the mystery of its authorship. We now know that it was written by Edinburgh publisher Robert Chambers, but contemporary audiences had to cast about to guess at its origin—and to know how to interpret its aims. *Vestiges of the Natural History of Creation* borrowed the rhetoric of design and wonder of the *Bridgewater Treatises* but without their insistence on constant divine action.⁸² It bundled cases of spontaneous generation via electricity and embryology with an earnest embrace of Pierre-Simon Laplace's nebular hypothesis—the mechanical theory that solar systems formed through the gradual condensation of clouds of diffused matter, being tested by giant new telescopes that sought to reduce the nebula into distinct stars. In *The Vestiges of the Natural History of Creation*, the spiral Orion nebula was offered as evidence for the development of life out of matter following mechanical, all-encompassing natural law; Combe's phrenology was brought in as support for this “creation by natural law.”⁸³ Anglican natural philosophers were not pleased. Geologist Adam Sedgwick wailed that “if the book be true, the labors of sober induction are in vain; religion is a lie; human law is a mass of folly, and a base injustice; morality is moonshine.”⁸⁴ Though it made frequent allusions to a somewhat redundant creator, *The Vestiges of the Natural History of Creation's* view of humanity as emerging from electrovitalist slime according to uniform natural laws struck many as a materialist blasphemy: at best deism, at worst atheism.

81. See Frank, “Valdemar's Tongue, Poe's Telegraphy”; Carl Ostrowski, “This Hideous Drama of Revivification: Poe's Fiction and Reprint Culture,” *Modern Language Studies* 40 (Summer 2010): 11–37; and Poe, “Article 4,” *American Phrenological Journal* 7 (Sept. 1845): 304–11. Poe's essay sits between a contribution from Harriet Martineau on mesmeric cures and a lecture by Fourierist William Henry Channing called “Association.” Thanks to Ava Kofman for the Valdemar references.

82. See Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of “Vestiges of the Natural History of Creation”* (Chicago, 2003), and Milton Millhauser, *Just before Darwin: Robert Chambers and “Vestiges”* (Middletown, Conn., 1959), p. 5.

83. Ronald L. Numbers, *Creation by Natural Law: Laplace's Nebular Hypothesis in American Thought* (Seattle, 1977), p. 51.

84. Quoted in Millhauser, *Just before Darwin*, p. 122.

The controversy also inflamed the US. Ralph Waldo Emerson and Thoreau took abundant notes; but for many established scientists the book was a scandal against both religion and the consensus of the wise. US botanist Asa Gray fulminated that because “the professional establishment of science” condemns its arguments (he cites Cuvier, Lyell, Murchison, and Whewell), “why, we ask, should not the unprofessional reader rely upon their independent testimony, in respect to facts which they are the most competent witnesses of, and inferences of which they have the best means of judging?”⁸⁵ This appeal to the authority of European experts was all the more anxious, given *The Vestiges of the Natural History of Creation*’s success in both official and pirated reprints and excerpts among “undisciplined” American audiences.

Theologians denounced its “horrible vision” of a world run only by laws.⁸⁶ One Unitarian reviewer, receptive to the book’s scope, nevertheless insisted on the soul’s freedom: scientific discoveries “do not touch upon the fundamental facts of human will and human responsibility. . . . We are the more impelled to make this protest, because it seems imperative on the philosophic mind to withstand the subtilizing materialism that grows, naturally enough, out of the amazing discoveries of modern science, and justifies itself by perpetual appeals to the ‘vanishing lines’ of scientific investigation.”⁸⁷ Natural philosophers’ Mephistophelian “subtilizing materialism” leads astray by holding out promissory notes of eventual explanation—a future final answer that corrupts belief today. The controversy surrounding *The Vestiges of the Natural History of Creation* in the US—played out in pamphlets, octavos, pirated reprints, broadsheets, lectures, and sermons—showed that the Lazzaroni’s unified net of rational explanation, harnessed to Protestant piety and anchored in elite institutions, let many wild things through. It also proved that cosmology was a hot commodity in the marketplace of ideas.⁸⁸

Poe’s fame grew in 1845 with “The Raven.” As a sequel, he offered its readers a new methodological head game, “The Philosophy of Composition,”

85. Asa Gray, review of *Explanations: A Sequel to “The Vestiges of the Natural History of Creation,”* by Robert Chambers, *North American Review* 63 (Apr. 1846): 506.

86. Bradley J. Gundlach, *Process and Providence: The Evolution Question at Princeton, 1845–1929* (Grand Rapids, Mich., 2013), p. 20.

87. Joseph H. Allen, review of *The Vestiges of the Natural History of Creation and Explanations: A Sequel to “The Vestiges of the Natural History of Creation,”* by Chambers, *Christian Examiner* 40 (May 1846): 346, 347. See Peter J. Bowler, *The Non-Darwinian Revolution: Reinterpreting a Historical Myth* (Baltimore, 1988).

88. See Secord, *Victorian Sensation and Visions of Science*, and *Science in the Marketplace: Nineteenth-Century Sites and Experiences*, ed. Aileen Fyfe and Bernard Lightman (Chicago, 2007).

which purported to explain how he wrote his famous poem. Written in the midst of the controversy of *The Vestiges of the Natural History of Creation*, the essay partook of the debates about design.⁸⁹ The title played on the double meaning of “composition”—both the creation of new forms and the material assembly of type. It offered a “peep behind the scenes” to reveal the “wheels and pinions,” the hidden algorithms of poetic creation. A poem should aim at a single effect and last about one hundred lines long; its ideal topic is the death of beautiful woman; it should repeat sounds and, ideally, *o*'s (the *Teapot's* editor, Bullet-head, would agree).⁹⁰

This manual by a West Point-trained engineer and skilled typesetter for the step-by-step assembly of a sublime poem has been an object of obsession for literary critics, whether defenders or denouncers of romantic spontaneity. Does poetry arise from the divine spark of inspiration, or is it simply the material recombination of marks on a page, metal letters in a compositor's stick, following universal, mechanical rules? Yet the article reaches beyond poetry; its self-contradictions fuse multiple sides of the debate surrounding the *Bridgewater Treatises* and *The Vestiges of the Natural History of Creation*. Are mechanical law and material arrangements sufficient to explain the world, or is a supernatural, miraculous, and free creator required to direct its ongoing realization? Is matter dead, enlivened only by the will of God and the eternal soul, or does it contain its own powers of animation? By leaving multiple, contradictory possibilities in play, “The Philosophy of Composition” anticipated *Eureka*, Poe's explicit entry into the cosmological convulsions of the antebellum period.⁹¹

“There Is No Immateriality”

Poe's voice wavers and alters across his texts; he contradicts himself and effects leaps of genre, tone, and character; he delights in paradox: “That a tree can be both a tree and not a tree, is an idea which the angels, or the devils, *may* entertain” (*E*, p. 14). Through this seemingly random trajectory, however, he offers a consistently inconsistent philosophy of nature

89. See Scott Peeples, “Poe's Constructiveness and ‘The Fall of the House of Usher,’” in *The Cambridge Companion to Edgar Allan Poe*, ed. Kevin J. Hayes (Cambridge, 2002), pp. 178–90, and Susan Welsh, “The Value of Analogical Evidence: Poe's *Eureka* in the Context of a Scientific Debate,” *Modern Language Studies* (Fall 1991): 3–15.

90. Poe, “The Philosophy of Composition,” *The Works of Edgar Allan Poe*, 6:32, 6:33.

91. Poe explicitly addressed the *Bridgewater Treatises* in “Marginalia,” arguing that their presentation of the principle of “adaptation” masked an illuminating tautology: for any element of nature, it was impossible to say whether it was the cause or the effect of adaptation. The idea of the universe's circular causality, or “the absolute reciprocity of adaptation,” reappeared in *Eureka* as an argument for pantheism (Poe, “Marginalia,” *Democratic Review* 15 [Nov. 1844]: 486).

in which negation and void play a constitutive role. In *Eureka*, he again operationalizes nothingness, this time to forge a theory of cosmic encryption and world making.

Consider an excerpt from “Mesmeric Revelation” (1844). A philosophical trial-run of “The Facts in the Case of M. Valdemar,” it presented itself as case notes from a conversation between a magnetizer (“P” again) and his critically ill patient, Vankirk. It records the patient’s clairvoyant perceptions.

V. You know that the beginning is GOD. [*This was said in a low, fluctuating tone, and with every sign of the most profound veneration.*]

P. What then is God?

V. [*Hesitating for many minutes.*] I cannot tell.

P. Is not God spirit?

V. While I was awake I knew what you meant by “spirit,” but now it seems only a word—such for instance as truth, beauty—a quality, I mean.

P. Is not God immaterial?

V. There is no immateriality—it is a mere word. That which is not matter, is not at all—unless qualities are things.

P. Is God, then, material?

V. No. [*This reply startled me very much.*] [“MR,” 2:312]

Startling, indeed: if “there is no immateriality,” mustn’t God be matter, too? Poe’s answer relies on a novel interpretation of the electromagnetic and “luminiferous ether” (“MR,” 2:313), which was seen to share at least a resemblance and for some an essence with nervous and mesmeric fluids.⁹² The dying (or perhaps already dead) Vankirk perceives ether as a fluid made of particles so subtle that beyond a certain threshold it becomes continuous; matter becomes so fine it cannot be distinguished from spirit, a theory of physics applied to make sense of the nature of God:

P. What then is he?

V. [*After a long pause, and mutteringly.*] I see—but it is a thing difficult to tell. [*Another long pause.*] He is not spirit, for he exists. Nor is he matter, as you understand it. But there are *gradations* of matter of which man knows nothing; the grosser impelling the finer, the finer pervading the grosser. The atmosphere, for example, impels or modifies the electric principle, while the electric principle permeates the

92. Poe, review of *Etherology; or the Philosophy of Mesmerism and Phrenology*, by James Stanley Grimes, *Evening Mirror*, 5 Dec. 1844, p. 2.

atmosphere. These gradations of matter increase in rarity or fineness, until we arrive at a matter *unparticled*—without particles—indivisible—*one*; and here the law of impulsion and permeation is modified. The ultimate, or unparticled, matter not only permeates all things but impels all things—and thus *is* all things within itself. This matter is God. What men attempt to embody in the word “thought,” is this matter in motion. [“MR,” 2:312–13]

Ultimate matter no longer has particles; it runs through all things; it is God. Echoing Swedenborgian doctrine, Vankirk states that organs interrupt this subtle matter; humans are bound to perceive gross matter by the configuration of their senses.⁹³ Without them, we would—like angels, who lack organs—perceive the ether, divine thought and motion, and God himself. Other organs would assemble other worlds:

There are many things on the Earth, which would be nihility to the inhabitants of Venus—many things visible and tangible in Venus, which we could not be brought to appreciate as existing at all. But to the inorganic beings—to the angels—the whole of the unparticled matter is substance; that is to say, the whole of what we term “space” is to them the truest substantiality. [“MR,” 2:320–21]

The configuration of our sense organs assembles our world by interacting with specific densities of matter. Though this conception anticipates Jakob von Uexküll’s ethology and biosemiotics, Poe takes it into outer space; beings living on Venus would have organs adapted to that planet’s environment. And a body without organs would perceive all that is.⁹⁴

If this is a hoax, it’s a quite serious one. It presents intimations of the cosmology he worked out in *Eureka* in 1848. Composed during the furor around *The Vestiges of the Natural History of Creation* and immediately on

93. As one of Swedenborg’s medical promoters and translators James Wilkinson put it, “nature is not a mere surface, but a thing of trine dimension. To discern the inner spheres of nature, their corresponding faculties must be opened, as to discern the external world, the external eyes must be opened, and as to discern the spiritual world the spiritual eyes must be opened” (James Wilkinson, *Remarks on Swedenborg’s Economy of the Animal Kingdom* [London, 1846], p. 10n).

94. Interred in an asylum, Antonin Artaud read Poe before composing the radio play, “To Have Finished with the Judgement of God,” which introduced the “body without organs”—sensing matter liberated from the limitations of organic coding, later reclaimed in Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi, vol. 2 of *Capitalism and Schizophrenia*, trans. Hurley et al. (Minneapolis, 1987). One might also compare Poe’s revelations to the “somatic perspectivism” Eduardo Viveiros de Castro finds in Amazonia, where “the objective permutability of bodies . . . is based in the subjective equivalence of souls” (Eduardo Viveiros de Castro, “Cosmological Deixis and Amerindian Perspectivism,” *Journal of the Royal Anthropological Institute* 4 [Sept. 1998]: 469–88).

the heels of a lecture by astronomer John Pringle Nichol, one of Chambers's Scottish associates and promoter of the nebular hypothesis, *Eureka* was first delivered as a lecture at the Society Library of New York before being printed in an edition of five hundred copies (less than the fifty thousand he had proposed).⁹⁵ Poe both insisted on its truth and stated, perhaps defensively, that "it is as a Poem only that I wish this work to be judged after I am dead" (*E*, p. 5).⁹⁶ In a letter he summarized this difficult, convoluted text: "*Because Nothing was, therefore All Things are.*"⁹⁷

He dedicated his "essay on the material and spiritual universe" to Humboldt, whose multivolume *Cosmos* (1845), an overview of the physical universe, had just appeared to abundant international praise. Poe's own "cosmogram" (a concrete object, in this case a text, that aims to convey the order of the universe) begins with a lengthy methodological windup—a response to those who aimed to stabilize "the scientific method" and the authority of institutional science—William Whewell and William Herschel, Bache and Henry. Poe mocked "the singular fancy that there exist *but two practicable roads to Truth*" (*E*, p. 10): either that of the ram, "Ar-ies Tottle," creeping along the "*à priori* path of axioms, or Hogg [Bacon], crawling through induction from facts and the Scotch snuff of *detail*" (*E*, p. 131). What he called "true Science" instead made its greatest advances through "seemingly intuitive *leaps*." While earlier systems "confined investigation to crawling," he wondered: "because the snail is sure of foot, for this reason must we clip the wings of the eagles?" (*E*, p. 13). Having cleared the air for speculative thought, he recounts the history of the universe, citing men of science from Isaac Newton to Laplace, to Herschel, John Stuart Mill, and Auguste Comte.

In brief, his scheme was the following: In the beginning was a single, united particle, matter in "its utmost conceivable state" of simplicity (*E*, p. 22). In a sudden, determinate expulsion, this particle divided itself, emanating spherically in particles of minute matter, filling the unthinkable vast yet finite space of the universe. Once that first impulse stopped, the defining character of matter—gravity or attraction—set in; the particles all rushed towards each other, forming the visible masses of the heavens. Yet the principle of attraction was matched by an opposing force. This counterforce Poe called electricity or ether, a principle of separation, and

95. See Dawn B. Sova, *Edgar Allan Poe: A to Z* (New York, 2001), p. 82.

96. Poe's "poem" deliberately recalls earlier scientific fictions in the mode of Lucretius, Kepler, and Cyrano de Bergerac. See Frédérique Ait-Touati, *Fictions of the Cosmos: Science and Literature in the Seventeenth Century*, trans. Susan Emanuel (Chicago, 2011).

97. Poe, letter to George W. Eveleth, 29 Feb. 1848, *The Letters of Edgar Allan Poe*, ed. John Ward Ostrom, 2 vols. (Cambridge, Mass., 1966), 2:361.

complexity—a force of repulsion resisting the force of attraction drawing the diffused matter, with increasing force, back toward unity. As attraction grew, so did this force of repulsion, manifesting in greater complexity, heterogeneity, vitality, and intelligence among the entities of the world; the result was increasingly advanced species and, perhaps, artworks that were at once more complex and more ideal.

Eventually, however, the scales would tip: “this Ether being no longer needed, the overwhelming pressure of the finally collective Attraction shall at length just sufficiently predominate and expel it.” Without this counterforce, attraction drew all matter back “into absolute Unity.” At this point, “it will then (to speak paradoxically for the moment) be Matter without Attraction and without Repulsion—in other words, Matter without Matter—in other words, again, *Matter no more*” (*E*, pp. 102–3). When repulsion or ether disappears, matter loses its own relative existence. Becoming Absolute, the reunified matter ceases to be material at all.

Absolute matter is the same as nothing; and that nothing is nothing less than God. “In sinking into Unity, it will sink at once into that Nothingness which, to all finite perception, Unity must be—into Material Nihilism from which alone we can conceive it to have been evoked—to have been *created* by the Volition of God.” At that point, “the final globe of globes will instantaneously disappear, and that God will remain all in all” (*E*, p.103). We are back where we began, a single particle in “utmost simplicity.”

Yet if this process has happened once, why should it stop there? There seems good reason, he says, “in indulging a hope—that the processes we have here ventured to contemplate will be renewed forever, and forever, and forever; a novel Universe swelling into existence, and then subsiding into nothingness, at every throb of the Heart Divine” (*E*, p. 103). Like a millennia-long wave, the universe has expanded into diffuse complexity, then contracted into condensed unity, then expanded again, as the ongoing pulse of creator and creation. Yet if matter and spirit are one, can these terms—*creator* and *creation*—truly be distinct? “And now—this Heart Divine—what is it? *It is our own*. . . . Think that the sense of individual identity will be gradually merged in the general consciousness—that Man, for example, ceasing imperceptibly to feel himself Man, will at length attain that awfully triumphant epoch when he shall recognize his existence as that of Jehovah” (*E*, pp. 103, 106). The feelings of power and loss experienced in childhood, he argues, are no mere fancies; they are traces of the pantheist truth hidden beneath dualist illusion. He concludes the work by expressing an ultimately embracing if progressively self-alienating materialism, depicted as a spiral architecture: “In the meantime, bear in mind that all is Life—Life—Life within Life—the less within the greater, and

all within the *Spirit Divine*" (*E*, p. 106). The painful separation from God we experience as earthlings is revealed as a temporary deception, as is the sensation of our distinctness, our organicity; instead, intimations of immortality are fully justified.

Indeed, the work of the poet and author, assembling sounds and marks on paper to bring about spiritual effects, strives for the divine adequation of means and ends. This universal tendency is missed by the "Theorists of Government" who see reason as a late addition rather than the "chief idiosyncrasy" of humanity, a latency only fully revealed "upon the highest pinnacle of civilization" or in sublime artworks like the paradisaical landscape garden Poe builds in "The Domain of Arnheim."⁹⁸ Striving for this pinnacle, however, we stagger, clumsily, with our imperfect adaptations and plans, while "the plots of god are perfect; the Universe is a Plot of God" (*E*, p. 99). The skepticism, irony, and frequent self-contradictions running through Poe's works indicated his recognition that humans can at best approximate this concatenation of plots; they are traces of a consistent inconsistency aligned with the logic of stage sets, of screens and curtains that lift to reveal hidden depths, "eternally beginning behind beginning."⁹⁹ The cosmogram formed by his works, culminating in *Eureka*, invites us to walk through these material landmarks—or, rather, to leap—to capture fleeting glimpses of the universe's ever-receding expanse.

The Bridgewater Treatises sought to stabilize a world of dead matter conducted by an everywhere-active, miracle-working God, methodically discerned by nature's authorized priests; *The Vestiges of the Natural History of Creation* tore through this consensus by gathering scattered arguments of vitalist materialism into a cosmological epic, in which ubiquitous laws made both an active God and an eternal soul unnecessary. In *Eureka*, published in the revolutionary year of 1848, Poe showed all of matter and every soul as part of a single divine plot, a single living substance. While the critics of *The Vestiges of the Natural History of Creation* warned against its "subtilizing materialism," *Eureka* presented what one contemporary reviewer called a "sublimated materialism."¹⁰⁰ It chased matter to the point where its complete realization was inseparable from its annihilation. Poe died the following year.

98. Poe, "Marginalia," *Democratic Review* (Nov. 1844): www.eapoe.org/works/harrison/jah16m02.htm. See Joan Dayan, *Fables of Mind: An Inquiry into Poe's Fiction* (New York, 1987), on "The Domain of Arnheim" as philosophical culmination.

99. Poe, "Marginalia," *Graham's Magazine* 32 (Jan. 1848): www.eapoe.org/works/misc/mar0148.htm

100. Anon., review of *E*, *New York Evening Express*, 12 July 1848, in *Edgar Allan Poe: The Critical Heritage*, ed. Ian M. Walker (London, 1986), p. 288.

Matter No More

In Poe's cosmic narratives—cryptic, fragmentary, arabesque—opposed pairs walk hand in hand: rationalization and enchantment, observation and imagination, spirit and matter, thought and concrete medium. In so doing, each term veers in and out of its specificity; matter, encompassing all, becomes matter no more, absolute nihility. Yet this, too, is only a moment in an infinite cycle.

Why should Poe's skewed compositions matter now? Haven't the pseudosciences and cosmic speculations of his time been debunked once and for all? Haven't the remarkable advances of the scientific method paved stable routes to certainty? On the contrary. The claims of MeMO's unity and completeness—as principles for epistemology, ontology, and political order—have been shown to be greatly exaggerated.¹⁰¹ There are widespread indications that images of knowledge at variance with MeMO may be the only way to deal both with the politics of knowledge and with complex and emergent phenomena in physics, biology, and the sciences of mind.¹⁰² More pressingly, the dominance of MeMO as our commonsensical approach to both nature and society seems to be bringing the destruction of earthly life well ahead of schedule. Spurred by an earlier apocalyptic constellation, Poe was one of the first to see science-driven industry as a cause of ecological catastrophe; in "The Colloquy of Monos and Una," a recently deceased spirit describes the death of the earth, where "huge smoking cities arose, innumerable. Green leaves shrank before the hot breath of furnaces. The fair face of Nature was deformed as with the ravages of some loathsome disease." He offers little consolation through his hope that this devastation makes way for a new start, when the "Art-scarred surface of the Earth, having undergone that purification which alone could efface its rectangular obscenities, should clothe itself anew in the verdure and the mountain-slopes and the smiling waters of Paradise."¹⁰³ Alternative cosmological routes such as Poe's, whether found within or beyond Western scientific traditions, can prepare new envelopes of thought and being.

101. See *The Disunity of Science: Boundaries, Contexts and Power*, ed. Galison and David Stump (Stanford, Calif., 1996).

102. See for instance Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, N.C., 2007); Stuart Kauffman, *At Home in the Universe: The Search for Laws of Self-Organization and Complexity* (Oxford, 1995); Thomas Nagel, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False* (Oxford, 2012); and Evan Thompson, *Waking, Dreaming, Being: Self and Consciousness in Neuroscience, Meditation, and Philosophy* (New York, 2014).

103. Poe, "The Colloquy of Monos and Una," *Tales* (New York, 1845), pp. 103, 104.

The early nineteenth century has often been depicted as the moment of the solidification of the professional identity of the scientist, of scientific method, and of a natural order severing objective facts from subjective interpretations. In many ways it was; the institutions, methods, collections, and chains of instrumentation that built the modern world were reinforced, layer by layer, link by link, by the scientific and technical empire builders of Poe's age. MeMO—the mechanical, materialist, objectivist cosmology condensing in his era—would soon insinuate itself into all aspects of humans' relations to the earth and to each other. Compared to the major productions of the *Bridgewater Treatises*' authors and the Lazzaroni, *Eureka* was a minor cosmogram both because it lacked their social and institutional authority and audience and because it eschewed an appeal to foundations. Poe defended it as “beautifully true” (*E*, p. 157); it expressed in its own progression and leaps the ongoing creativity, harmonies, contradictions, and violent disjunctures of the cosmos. It acknowledged its printed, narrated, provisional character, making his arguments neither less compelling nor, perhaps, any less true.¹⁰⁴

In her “cosmopolitical proposal,” Isabelle Stengers argues that the composition of a viable common world can be attained through neither a mechanical calculation of economic and political forces nor through an organic harmonization of parties; it must rather unfold as a chemical (or alchemical) mixture, with emergent compounds and unexpected by-products, open to ongoing tweaks. Her first prescription is simply to *slow down*—to make sure that all with a share in the outcome of decisions of common concern are present and to avoid assuming that we already know all we need to. For this reason she praises the philosophical figure of the idiot—the Bartleby who blocks the self-evident course of events, who interrupts the course of a facile common-sense agreement by insisting that there is more to be taken into account. The ritual setting of the encounter, the equipment, the stage, and the gestures must also be carefully prepared to allow “the whole to generate what each one would have been unable to produce separately.”¹⁰⁵

The philosophical idiot—a cousin to Poe's “Imp of the Perverse” and “Angel of the Odd”—haunts his work wherever we hear irksome

104. In contrast to this presentation of Poe as magazinist and cosmic engineer, in Charles Baudelaire's translations and prefaces Poe was transformed into the exemplary poet of imagination and ideality, setting the stage for formal, decontextualized, dematerialized readings of literature and the arts; see Tresch, “The Uses of a Mistranslated Manifesto: Baudelaire's ‘Genèse d'un Poème,’” *Esprit Créateur* 43, no. 2 (2003): 23–35.

105. Stengers, “The Cosmopolitical Proposal,” p. 1002.

negations like those of the disgruntled scrivener.¹⁰⁶ The prospects to which Poe's printed scenographies lead us—in which discrete, technically precise arrangements of knowledge and creation molt eerily into a perspiring, bewildering, more-than-human totality, at once crushingly complete and exhilaratingly empty—are designed to give us pause. His texts light up the precipice on which we stand, warning us to pause before we grasp the prop of better data or messianic technologies to secure safe passage through the storm.¹⁰⁷ Juxtaposed with Poe's own tragic life, we can also read them as warnings against fatalism's destructive allure.

Poe's experiments showed that far from stopping motion, the turn to matter—whether undertaken by scientists, cultural historians, philosophers, or poets—generates new cycles of creation and collapse. The end of a box is a void. In the tectonic shifts of the early nineteenth century, the mobile, fractured architecture of Poe's oeuvre points to an elusive ground of shared practices and temporary stabilizations, corridors and interzones from which incommensurable realities might be accessed, negotiated, arrayed.¹⁰⁸ His media practices toiled at both the compulsive efficacy and the ultimate groundlessness of matter. As we try to reset the terms of our engagement with each other and with the earth, his recognition of a foundational emptiness seems inevitable—the only certain ground on which to build.

106. Poe himself appears as a “shatter-brain” in the most arabesque of Herman Melville's novels, *The Confidence-Man* (Herman Melville, *The Confidence-Man: His Masquerade*, ed. Hershel Parker and Mark Niemeyer [New York, 2006], p. 197). See Paul Smith, “The Confidence-Man and the Literary World of New York,” *Nineteenth-Century Fiction* 16 (Mar. 1962): 329–37.

107. See David Edgerton, *Shock of the Old: Technology and Global History since 1900* (London, 2011), and Evgeny Morozov, *To Save Everything, Click Here: Technology, Solutionism, and the Urge to Fix Problems That Don't Exist* (New York, 2013).

108. See Kate Marshall, *Corridor: Media Architectures in American Fiction* (Minneapolis, 2013).