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Extra! Extra! Poe invents science fiction!

1. Special edition from the past

NEW YORK CITY, April 13, 1844 – In an unprecedented feat of human ingenuity and artistic audacity, Mr. Edgar Allan Poe of Fordham today reported a purely *imaginary* feat of science and technology as a *fait accompli*, creating a near-riot outside the offices of *The New York Sun*. The stir was caused by citizens who sought to purchase a special edition containing the fallacious report of a hot air balloon's crossing of the Atlantic. By making facts of physical philosophy the basis and central concern of an adventure tale, Mr. Poe has invented *science fiction*. The *seriousness* and *high-mindedness* of this fictional mode will soon undoubtedly allow it to take its place among the most highly esteemed and prestigious genres of literature.

Countless unsuspecting readers were duped by Poe's report, which claimed the paper's front page with the large-type headline, "Astounding News! By Express Via Norfolk! Signal Triumph!" The article described in minute and technically plausible detail the flying apparatus allegedly invented and flown by well-known aviator Mr. Monck Mason. In all instances the author of the report was careful to explain the principles of aeronautics, meteorology, navigation and mechanics upon which the unexpected phenomena observed by his protagonists relied.

Mr. Poe, who will be known to the reader as the most beloved of our native poets and literary fabricators, has already earned for himself an untarnishable posterity through his ethereal and ideal poetry, his creation *ex nihilo* of detective fiction, and his *scientifically rigorous* literary criticism, and is everywhere acknowledged to have set American literature on its feet once and for all. One feels that artistic and speculative advances of the widest possible variety and of a truly *general* and *cosmical* significance cannot be far behind.

2. Invention, discovery, or hoax?

The suspicion of a hoax frequently hovers over Poe's treatments of science and reason. It therefore seems appropriate to begin an article on

Poe's relationship to science fiction with a "factual report" of dubious veracity.

I will leave it to other chapters in this volume to reveal the "facts in the case" of Poe's reputation during his lifetime and after, as well as the fortunes of the other genres and forms he helped spawn. I should point out, however, that most reports of the public stir and sensation caused by the fictitious news report now called "The Balloon Hoax" are suspiciously linked to Poe himself.[1]

Moreover, the title of the present article is something of an *enhancement* of the role Poe plays in most histories of science fiction. In the first part of this chapter I will suggest that Poe did not so much *invent* science fiction as *discover* it in an existing tradition, reshaping it for his own ends and adapting it to the forms of rhetoric, images of truth, and technologies reigning in his day. But as suggested by the nearness in his epistemology between fact and hoax and between truth and imagination, for Poe, it is a short step – or *leap* – from discovery to invention.

We will then examine the *mechanics of displacement* in Poe's writings. His speculative fictions arose from the encounter with new sciences and technologies that were stretching and surpassing the boundaries of the world. The logic of astonishment in his tales – not only those now classed as "science fiction" – suggests an understanding of reason and technology as ways of worldmaking, as reality-stabilizing machines. A discussion of the most visible sciences of the first half of the nineteenth century will lead to a consideration of Poe's skeptical epistemology, focusing on the necessarily *debunking* aspect of science in relation to itself: the claims and practices that support the current image of reality may eventually be shown to be nothing but a more or less well-coordinated *hoax*. To borrow the conceit of "The Philosophy of Composition," for Poe, science, technology, and other techniques of verisimilitude are the tools that set the stage of the world, framing and manipulating reality's spectacle.

Poe's fictional responses to science reflect back upon his own "rational" theories of literature; he understood language, logic, and rhetoric as *technologies*. The last part of this article will argue that Poe's reflexivity about the media of communication make him a central precursor for developments in the science fiction of the twentieth century, suggesting connections between Poe's work and fiction, film, and music of recent decades. I aim to convince the reader of the vitality and relevance of Poe's science fiction, obsessed as it is with transport beyond the limits of reason and knowledge – both for what it proposes as the subject of art and for what it suggests about the place of science and technology in our constantly changing world.

3. Poe and the futures of the past

The claim that Poe invented the genre that would become science fiction is based not on "The Balloon Hoax" but on "The Unparalleled Adventures of One Hans Phaall" (1835). Although framed by a comical, grotesque introduction, the tale fastidiously recorded plausible conjectures about the visible and atmospheric conditions that would be experienced by a vessel travelling from the earth to the moon. A comparable "Moon Hoax" penned by Richard Adams Locke – Poe's editor at the *Sun* in 1844 – had appeared in June 1835, three weeks *after* "Phaall." Because of the greater notoriety of Locke's series of reports of observations of life on the moon, allegedly gathered by John Herschel's powerful new telescope in South Africa, Poe later insisted upon his priority to Locke and to other reports about life on the moon: "In 'Hans Pfaall' the design is original, inasmuch as regards an attempt at *verisimilitude*, in the application of scientific principles (so far as the whimsical nature of the subject would permit,) to the actual passage between the earth and the moon" (*P&T*, 1001). Some have disputed his claim by pointing out the numerous precedents for his speculative fictions, in religious traditions of prophecy and revelation, in political philosophy dating back to Plato's *Republic*, and in critical and satirical versions of the "earthly paradise" developed in More's *Utopia* or in Rabelais' *Gargantua and Pantagruel*. Poe's detractors have also noted the speculative extensions of contemporary technologies on the floating Isle of Laputa in Swift's *Gulliver's Travels*, and the imaginary and comical voyages to the moon recounted in the seventeenth century by Cyrano de Bergerac. In the early nineteenth century, works of E. T. A. Hoffman and Mary Shelley, in which the Gothic encountered the new feats of chemistry and mechanics, offered more recent precedents.

In the 1930s, Hugo Gernsback, whose journal *Amazing Stories* is generally accepted as founding the pulp science fiction market in the United States, returned attention to the American roots of a genre that had come to be associated with European intellectuals – H. G. Wells and Jules Verne to be sure, as well as Ralph Bellamy, William Morris, H. Rider Haggard, George Bernard Shaw, Samuel Butler, Gabriel Tarde, and Villiers de l'Isle-Adam. Gernsback wrote:

> By 'scientifiction' I mean the Jules Verne, H. G. Wells and Edgar Allan Poe type of story – a charming romance intermingled with scientific fact and prophetic vision . . . Not only do these amazing tales make tremendously interesting reading – they are always instructive . . . They supply knowledge . . . in a very palatable form . . . New inventions pictured for us in the scientifiction of today are not at all impossible of realisation tomorrow.[2]

Later science fiction authors have sought to mark their distance from the "gee-whiz" quality of *Amazing Stories*, associated as much with the gleaming future of rounded edges, low-resistance tailfins and teardrop shapes of the "streamline" design movement featured on its covers as with its optimistic ideology of progress through the efforts of the individual boy-inventor.[3] Ironically, some critics have used Poe's "vulgar" interest in machines as a case for excluding him from "high literature," while others have sought to qualify his membership to the canon of science fiction on the basis of an insufficient "cognitive" content, a predominance of themes appropriate to horror or fantasy, or an inappropriate technophobia. Others acknowledge him as a founder of science fiction, but in a form that, like the image of science fiction offered by Gernsback, is hopelessly *passé*.[4]

Following the superb introduction and notes to Harold Beaver's *Science Fiction of Edgar Allan Poe*, it seems unnecessary to argue the case for Poe's inclusion in the canon of science fiction any further. As for his status as "pioneer" of the genre, at the very least we can be sure that with the rigorous attention to detail aiming at logically consistent verisimilitude that Poe applied in "Phaall," "The Balloon Hoax," and other tales, Poe prepared the way for the speculative fictions of the century to follow; we will later argue that Poe set the precedent for modes of science fiction that came into their own in the second half of the twentieth century.

4. Machines of displacement

The term "pioneer" suggests travel in uncharted lands, like the land explorations in the abortive *Journal of Julius Rodman* and those on sea to the south and the sublime in *The Narrative of Arthur Gordon Pym*. Just as Hans Phaall's adventures are "unparalleled" because they escape the coordinate system of the earth (much like the "Purloined Letter" escapes the grid of the police), the tales of Poe that are readily classifiable as science fiction frequently take as their focus a vessel or machine that allows for displacement "off the map."

We have mentioned the devices that permitted the unprecedented voyages by air in "The Balloon Hoax" and "Hans Phaall." Ships for travelling by sea are of course present in "MS. Found in a Bottle," in which a man who suffers from a "common error of this age," that is, of referring occurrences to the principles of "physical philosophy," an error which fails to prepare him for the encounter with the gigantic ship that arrives out of the mists with aged wanderers consulting ancient mathematical devices. "Descent into the Maelstrom" contains a ship broken into bits off the Norwegian coast; caught in the vortex of the whirlpool, the narrator observes that a barrel descends

less quickly than other objects. The barrel to which he attaches himself is the token of the abstract thought that allowed him to stay afloat, much like the embodiment of reason found in "Maelzel's Chess-Player" and Babbage's calculating engine. Like a ship, reason is a tool, a device that allows one to get from one place to another, or, when one is being swept by an irresistible flow, to stay in one place.

The devices featured in the above tales produce movement by air, by sea, and by thought. The series of tales dealing with mesmeric phenomena deal with movement in the fluid medium of the electric or magnetic ether, into regions hitherto uncharted; the regular mesmeric pass by which trance states were induced joins these accounts of hypnotic research to the recurrent imagery of clock and pendula in "A Predicament," "The Angel of the Odd," and of course, "The Pit and the Pendulum." Furthermore, at the time, a mesmerized patient was compared to an automaton, one claimed by a state somewhere beyond active, conscious life and complete cessation of vitality.[5] "A Tale of the Ragged Mountains" relates the experience of spirit travel or metempsychosis of a mesmerized patient, while "Mesmeric Revelation" and "The Facts in the Case of M. Valdemar" follow a mesmeric suspension of life into the regions of death; whether intended as a hoax or not, the latter tale was taken by many as a factual report. By focusing on the mechanical device that induces the mesmerized state, these tales prolong the "unparalleled voyages" above. In the spirit colloquies, these regions are reached by death (in the case of "Eiros and Charmion," a death brought by a fiery comet colliding with a dystopian earth polluted by a spiritually corrupt humanity), itself a voyage mechanized in the coffin-contraptions of "The Premature Burial" and "Thou Art the Man."[6]

The "charming romance(s) intermingled with scientific fact and prophetic vision" found in Poe as well as in such luminaries of the late nineteenth century and early twentieth as Wells and Verne share with the "romance" popularized by Walter Scott the centrality of voyages, but divert their attention to the *instruments of displacement*. Verne retold "Hans Phaall" as *From the Earth to the Moon* and "The Balloon Hoax" in *Around the World in Eighty Days*, while taking off from where *The Narrative of Arthur Gordon Pym* left off with *The Ice Sphinx*. Moreover, the tale that has been identified as the prototype for the bulk of twentieth century science-fiction, H. G. Wells' "The Time Machine," finds a precedent in two tales of Poe.

In Poe the imaginary voyage of earlier utopias and earthly paradises begins to take place not in space but in time. "Some Words with a Mummy" shows the embalmed corpse of the pharaoh Allamistakeo reanimated by the application of galvanic fluid, a time machine powered by the same electric, magnetic, and *spiritual* mechanism as mesmerism. "Mellonta Tauta"

contains a letter written from the future (found floating in a bottle on the Sea of Darkness), on board the great balloon ship, the *Skylark*. But unlike the triumphant vision of man's creative powers that Shelley, poet of "Ode to a Skylark," imagined in *Prometheus Unbound*, the future described by the correspondent is one in which humans' onward-marching technology has not protected the individual from becoming expendable cannon fodder, disposable balloon ballast.

Poe's devices of travel from one world to another parallel advances in the sciences and technologies of the second quarter of the nineteenth century that were altering the parameters of time, space, and matter. His compulsive interest in the gadgetry of science and industry was not that of an awestruck amateur; rather, schooled in mechanical engineering at West Point with the best scientific education available in his country, and steeped, as his "Notes on Arts and Science" show, in contemporary reports of discoveries and innovations, his interest in instrumentation and the *technological* bent of his understanding of science were shared by contemporary scientists. Improvements in instrumentation were the ways by which sciences *moved forward*, extending the reach of human perceptions and allowing them, as a later expression had it, "to boldly go where no man has gone before."

5. Space ships, time machines, and electric rays; or, nineteenth century science

Poe repeatedly describes the encounter between worlds. The "MS. Found in a Bottle" (like the time capsule discovered in "Mellonta Taunta," a machine for transmitting a message across time), in which the pedantic reasonableness of the narrator, the level-headed, calculating utilitarian in "Peter Pendulum" or "Diddling Considered as One of the Exact Sciences," yields progressively to an alternate regime of knowledge, as suggested by the aged alchemists upon the ghost ship *Discovery*. Such encounters took place day to day in this period, which has been identified as that of a "second scientific revolution."

For the new science of geology, time travel was an everyday affair; mapping the successive strata uncovered by the gashes cut into the earth for new rail lines allowed a glimpse into the earth's secret history. Poe's *Conchologist's First Book*, a slightly hurried rewrite that is not without its innovations, was a popular text for the amateur classifier of shells, natural records of deep geological time; a comparable scheme of classification with its temporal implications later established by Darwin's Bulldog and Aldous' father, Thomas Huxley, would furnish the structural underpinnings for Wells' *Time Machine*.[7] Extrapolations from fossil evidence led to narratives of the creation and progress of the earth and universe including

J. P. Nichol's *Architecture of the Heavens*, a major source for Poe's *Eureka*, itself another conceptual time machine. Similarly, the decipherment of the Rosetta Stone allowed a glimpse of Ancient Egypt much as did the time machine that reanimated "Allamistakeo." By extending the reach of human perception into the past, the temporal framework of the present was stretched. Comparably, the development of networks of worldwide time-keeping in such centers as the Paris observatory, Greenwich, and, eventually, the Smithsonian Institute in DC aimed to bring about a standard time, a single clock which would tick at the same rate for the entire globe.

The same observatories that were *reshaping time* were coordinating efforts to *remake space*. New lenses and modes of analysis of light penetrated more deeply into the details of the extraterrestrial region, heightening the detail of aspects of the firmament hitherto understood as nebulous. The extension of networks of time-keeping and meteorology was aided by the electric telegraph, which by the 1840s traversed many regions of the European and American Continents. Preparing these global networks were the voyages of astronomers and natural historians like Alexander von Humboldt (to whom *Eureka* is dedicated). New techniques of representation – maps, tableaux, and especially *panoramas* – brought visible data from around the globe together for immediate and synoptic comparison. Furthermore, just as voyages were remapping the continents, the oceans, and the routes to the Poles, the air suddenly became inhabitable by humans with the balloons featured so prominently in Poe's tales; these were small-scale mobile laboratories. The assembly and comparison of the data from these journeys extended the reach and gaze of humans further than ever before, literally around the globe. Everyday life was being overhauled, due to the much-celebrated "annihilation of time and space" brought by new forms of communication: the transport of goods, people, and information by rail, steamboat, postal system, and telegraph. The limits of the world were stretched as the tools by which the world was accessed and perceived were changed.

Along with time and space, *matter* was undergoing major changes in this period. The old assumptions of Newtonian physics of an orderly clockwork universe of points and forces were giving way in favor of a search for new devices to investigate the movement of fluids – ether, light, electricity and magnetism, heat – from one place to another. This was a physics of intermediate regions or *milieux*; it relied upon improvements in instruments of observation and experiment – media – to create its effects. The magnetic amulets and passes in Poe's mesmeric tales were descended from comparable devices used by Mesmer himself; although frequently subjected to criticism, many still understood hypnotism according to the same principles as those of ordinary magnetic lodestones, the electric batteries developed by Volta,

Ellison's consummate realization of artistic creation is elsewhere understood in terms borrowed from contemporary physics. Poe identifies the luminiferous ether as "the great medium of creation," whose "awful *nature*" he associates with "the various phaenomena of electricity, heat, light, magnetism; and more – of vitality, consciousness and thought – in a word, spirituality" (*P&T*, 1352). Because of the perfect mutual adaptation of the universe, described in *Eureka*, every physical phenomenon is connected directly or indirectly with the whole of existence. Every word uttered, therefore, creates a vibration in the ether whose effect is everywhere felt and retained. In "The Power of Words," a disembodied consciousness engenders a wild star whose "brilliant flowers *are* the dearest of all unfulfilled dreams," and whose "raging volcanoes *are* the passions of the most turbulent and unhallowed of hearts" (*P&T*, 825). Words, written or spoken, convert thoughts into vibrations; the poet alters and recreates the world.

As suggested by the Greek term *techne rhetorike*, a text is an instrument constructed for a purpose. "The Rationale of Verse" expresses the aim of a poem as *unity*, in which all parts work together towards the production of a single, ideal effect. A text becomes more effective – and thus more ideal – as it approaches this perfect, or divine, adaptation. Since, in *Eureka*, an increase in complexity necessarily produces an increase in electricity, it follows that a poet capable of approximating the ideal, or an author who made nearly perfect plots, would grow to resemble the spirits of Poe's colloquies. Like in the "Domain of Arnheim," he would create an angelic and supremely *effective* art; the artist himself would become an altered, intermediate being, something like alien, or an *electric angel*.

As Poe's notion of God as a constructor of worlds and author of the cosmic text suggests, in his epistemology, writing and technology – both human and divine – are united as modes of creation. Taking elements of the present world (discovery) and joining them in new ways (invention), the artist leaps into unknown dimensions of the cosmos. From the point of view of the present, the report of his discoveries may seem to be a *hoax*. Yet these leaps into the regions beyond – in space, time, matter and thought – lay down rails for the world of the future. Different technologies or media are different means of structuring such leaps; the pathways they stabilize become the new worlds we share.

7. Navigating the new media order

The machine that is central to Poe's reflection on the power of words is the text. The means by which texts were constructed, formatted, and distributed was undergoing a transformation in his day, one of which he was uniquely conscious. Poe was one of the rare authors who had direct contact with the process by which written words were transformed into printed words. Throughout his career he worked in all aspects of the magazine trade, not merely as author of tales and poems but as editor, anonymous writer of features and reviews, and as typesetter. Words, sentences, and stories were assembled, following a skilled and repetitive technique, from replicable, standardized, and interchangeable parts.

Advances in printing technology, specifically the emergence of the steam press, stereotyping, anastatic printing, and improved paper production, allowed the quarterlies, weeklies, and the new dailies to proliferate. By the time Poe worked in his first editorial office in the early 1830s, regional and national journals had become an obligatory point of passage for the dissemination of knowledge of all kinds and were the main route for bringing news, commentary, and political views to the physically dispersed public. Like Balzac in France and Dickens in England, Poe in the USA was one of a new generation of authors whose works reached their primary audience through journals.[11]

Accordingly, Poe fitted his art to the new medium, honing the theory and practice of the short story to a fine edge. He intensified the impact of his tales by restricting them to the length that could be read in a single sitting, striving for maximum unity, and not hesitating to deploy the grotesque and shocking as ways of capturing and holding the attention. In parallel with the new daguerreotype, about which he wrote on multiple occasions, he sought to perfect linguistic techniques that could convey settings, actions, characters, and moods with a maximum of precision. The theory of poetry he advanced in "The Philosophy of Composition" – in which the first and most important consideration is *unity of effect* – is the literal description of a search for *increased technical efficiency* in a new mode of production. Like the scientists of his time who endeavored to construct new instruments and experimental mechanisms in order to create more robust and varied phenomena, Poe mastered a new media regime and exploited its potentials for producing *sensations*. As the self-conscious inheritor of the Ciceronian tradition of the orator as master of all tools of effective speech, flexible enough to adapt to any case and all circumstances, Poe understood the material basis of communication as another aspect of the technology of rhetoric.[12]

For Poe, words were indissociable from the fact of mechanical mediation by the printing press; the "ideas" in his texts were material objects, designed to bring about material transformations. The plans for his ideal literary magazine, *The Stylus*, emphasize that "Literature" requires a concrete network of readers and producers, as well as the links that join them. The *Stylus* – an iron instrument that draws lines – aimed at writing a literary nation into

and the "vital fluids" studied by Galvani. In the 1820s, Oersted arrived at a simple experimental apparatus that showed that magnetism could be converted into electricity, phenomena elaborated in France by Arago (who plays a bit part in Poe's alchemical hoax, "Von Kempelen's Experiment") and in England by Faraday. Studies of light, electricity, and magnetism continued to rely upon the concept of the *ether*, the "imponderable" fluid medium whose nature was obscure but whose theoretical utility made it indispensable. Following *naturphilosophie*, research in various fields shared the horizon of the search for a single, modifiable substance or fluid underlying matter and phenomena like light and electricity. These investigations in physics were linked to ongoing research in the spectacular new science of chemistry.

In Poe's time, a revelation of the mysteries of matter and spirit seemed to be right around the corner. His tales, like the sciences of his time, focused on devices for exploring space, time, and matter. The *encounter between incommensurable worlds*, in which the assumptions of what counts as "logical" must give way in the light of new experience was as central to his fiction as to the age in which it appeared. Like Poe's unparalleled protagonists, the arts and sciences were crossing and redrawing the parameters of the world.[8]

6. Poetically engineering a new nature

The notion of scientific progress necessarily undercuts the claims of science itself. Considered historically, any fact is just a hoax that is believed until it is debunked. Technologies that Poe's texts describe are metaphors for encounters between different conceptual, experimental, and communicational *techniques of worldmaking*.[9] The tools of science, like the machinery of reason and the "leap" of the artist, are devices for crossing the gap between the current approximations of the structure of the universe and the cosmic truth that may lie behind it; a new world replaces the old.

In order to get a sense of Poe's epistemology, imagine two machines of different scales. The largest one, the macromachine, is the universe as a whole, approximated in the "beautiful truths" of *Eureka*, whose outlines are sketched by imaginative leaps akin to those taken by the great speculators Kepler and Laplace. In this machine, all elements are perfectly adapted to each other; each cause is seamlessly coupled with each effect. This is the cosmos of the Stoics, the great whole that escapes us in all but its most general traits and most minute particulars. Now, the second machine, the micromachine, is any of the tools that humans construct and use to make themselves at home in the cosmos – houses, boats, steam engines, agricultural techniques, telescopes, writing. The smaller machines are *imperfect* since they are made by finite and fallible intelligences; they can only approximate the order of the

macromachine. The difference between God's creation, the macromachine, and the human-made, micromachines that engage it (with varying degrees of adaptation) is that unlike human creations, as Poe memorably puts it, "the plots of God are perfect," with all of their elements mutually adapted.

Human endeavor thus can be understood as an always-incomplete attempt to bridge a gap between two regions, between the tentative human order and the necessarily elusive order of the cosmos. Like the narrator of "MS. Found in a Bottle" who states that "the Pyrrhonism of my opinions has at all times rendered me notorious" (*P&T*, 189), Poe is fundamentally a *skeptic* about human knowledge. What currently passes for "reality" or "the world" is an imperfect tissue of conjectures and practices patched together as a makeshift version of the wider, ungraspable cosmos. The fabric of reality is an enormous hoax held together by endless smaller hoaxes.[10] Poe repeatedly mocked the notion that the creeping and crawling of induction and deduction were the only means of arriving at the truth – of crossing the *intermediary zone* between human intelligence and the divine; these methods were only suited to "Mill-horses," intellects out of step with steam and electricity. Instead one must travel this distance by means of the *leap* of imagination. Further, he argued against J. S. Mill's attempt to reduce the world to a single logical order, proposing: "That a tree can be both a tree and not a tree, is an idea which the angels, or the devils, may entertain." Between the order of the cosmos and human representations of it lies a vast distance that can never be completely bridged; two trees, one in the order of human logic, and one in the order of the divine logos may be at once the same tree while separated by the distance between human finitude and the infinity of God. Partially bridging this gap we find human technologies that structure the relation between humans and the cosmos in specific ways; these are the *media* that shape and reshape the world.

Writing, reason, and other technologies are thus the tools we use to cross the intermediate zone between man and God. "The Domain of Arnheim" tells of the narrator's friend Ellison, who, in possession of unlimited wealth and ambition aspired to create an incomparable work of art. He builds a landscape garden where "the art intervolved is made to assume the air of an intermediate or secondary nature – a nature which is not God, nor an emanation from God, but which still is nature in the sense of the handiwork of the angels that hover between man and God" (*P&T*, 863–864). The narrator's tour through the mazy crystal canyons of Ellison's creation, with its beds of flower-blossoms resembling "a panoramic cataract of rubies, sapphires, opals and golden onyxes, rolling silently out of the sky" (*P&T*, 867), suggests a fairy-tale hallucination engineered into three dimensions. In the space between man and God appears an angelic art, a *new nature*.

existence, creating the critical condition for the recognition of his work. In his "science fiction," Poe did not simply give paradigmatic form to a new literary genre; he showed how to exploit a reconfigured discursive network in the relationship between authors, readers, production, and distribution of texts. His refinement of the short story of sensation – targeted at a doubled audience of easily-manipulated masses and appreciative critics – did not just establish a new set of styles and themes, but set a *formal* and *practical* precedent upon which the specialized audiences created by the editors and publishers of the science fiction pulps could build.[13]

8. Strange loops (1): writing

During and after the Second World War, new potentials of human control and invention made possible a new scale of chaos and destruction. Following Gernsback's visions of a golden age of individualistic invention and technocratic administration, science fiction began catching up to Poe's often bleak vision of human future, expressing its fears about the technologies of the present in tales of an age to come. The pessimistic, dystopian turn taken by science fiction as the ravages of unchecked production and social engineering appeared in both such "literary" efforts as Orwell's *1984*, Huxley's *Brave New World*, and Yevgeni Zamyatin's *We*, as well as in more comfortably genre-specific works like those of Arthur C. Clarke, Clifford Simak, and Poe devotees Isaac Asimov and Ray Bradbury.[14]

Instead of discussing these practitioners from science fiction's "golden age," however, I'll develop an alternative conception of the genre by concentrating on one of its central strands. The works of science fiction whose affinity to Poe I wish to bring out here are not content simply to depict a full-blown alternative reality. Instead they take the status of reality in general as a permanent question, and postpone a final response by focusing on the variable tools, including those of language and symbolic construction, by which worlds are made and unmade. In this section, the key precursor for Poe's work is no longer Jonathan Swift and his Lemuel Gulliver but Lawrence Sterne and his *Tristram Shandy*.

Poe delights in pulling the rug out from under his characters – bringing that which was buried back up to the surface and undermining the assumptions upon which they thought they could stand. Stanley Cavell identifies the "Imp of the Perverse" as a skeptical satire of the Cartesian *cogito*: the philosopher's claim to know that or what he thinks is fragile indeed, and may at any moment be overturned by the unknown forces within the human mind.[15] Poe also delights in subjecting his readers to such reversals, in the juxtaposition of worlds – including the juxtaposition of the world of the

text with the real world to which it ambiguously refers. Poe is undoubtedly an important reference for such "metafictional" authors as Borges, Calvino, Nabokov, John Barth, and Paul Auster. The preface to *Pym* establishes the theme of a constant distancing of the self, of the sliver between the text and the world Foucault pries open in discussions of *Don Quixote*, and of the works of René Magritte, surrealist explorer of the paradoxes of recursivity. Self-estrangement and doubling are the central issues of "William Wilson," and, in connection with techniques of representation, of "The Oval Portrait." The perverse effects of the mixing of logical levels – the crossing of a text's hierarchy of worlds (texts within texts within the world itself considered a text) in unexpected ways – is a recurrent (and recursive) trait of Poe's writings.

Yet for Poe, this reflexivity surpasses the merely psychological and linguistic. Poe did not just reinvent a genre, but reordered the material matrix of his texts' delivery as means of altering the world, in much the same way as the sciences and technology reordering themselves shift the parameters of the real. Accordingly, it is those science fiction authors who are interested in the media – technologies of representation, communication, and transportation – that will have the greatest affinities with this fundamental aspect of Poe's works, instead of the "scientifiction" authors lauded by Gernsback, or those "metafictions" whose fundamental trope is language. The claim that the world is shaped by language and symbol is meaningless without a grasp of the concrete reality of words and language and an understanding of the other tools that establish the concrete and conceptual parameters of what counts as "real." A text can be considered in parallel to a telescope, a microscope, a clock, or a network of transportation as a relatively stable medium that shapes and regulates the relationship between two comparatively fluid entities. Printed words establish a relation between sender and receiver, and between receiver and the world perceived. Poe's texts reworked the "veil of the soul," as he put it, through which the reader perceived his world. The machines of displacement they feature are metaphors for the displacement worked by the text and by the other new technologies reshaping the contemporary environment.[16]

Poe-like pathological mixing of reality levels and jumps between them mark the work of many of the most interesting canonically science-fictional authors of the 1960s and 1970s, in which reflection about the medium of communication is constantly at play. The recurrent anthropological themes of Ursula K. Le Guin's novels – in which the rituals, habitat, practices, biological constraints and technologies of fictional "cultures" are imagined with great richness – recall the juxtaposition of worlds that ran through Poe's works, as well as the culture shock one encounters upon opening a text

that the skilful writer may choose either to heighten or assuage. The power that stories have to hold societies together is a theme that recurs in her own stories, one taken to uncanny extreme in the psychiatric patient of *The Lathe of Heaven*, who appears, via his encounter with his shrink, to be reweaving the fabric of reality both within and beyond the psychiatric office.

Stanislaw Lem as well explores the plasticity of the real on an alien planet in *Solaris* (beautifully adapted for cinema by Tarkovskii, whose *Stalker* treads similar ground), while his *Futurological Congress* has the reader grasping for some point of stability as the narrative and its world leap through a convoluted architecture of successive realities following the release of a toxin in the hotel where the title's congress for the imagining of the future is held. As Poe put it in the close of his "Balloon Hoax": "What magnificent events may ensue, it would be useless now to think of determining" (*P&T*, 755); the unexpected leaps of technological change and the world shifts they bring about (including the generalization of models of logical hierarchy that have passed from number theory to computer science via corporate structuring and planning to all aspects of everyday life) make futurology a permanently unsettling business.

Philip K. Dick is perhaps the master of the reality jump and of the twisted interpenetration of levels of the real. His media of alteration include Madison Avenue advertising, psychosis, lots of drugs, counterfactual histories, divine invasions, and alien possessions. *The Three Stigmata of Palmer Eldritch* combines theological reflections and a biting critique of contemporary corporations, a tale of dreary life on space colonies enlivened only by radio emissions from a corporate satellite and a cult surrounding a drug-enhanced role-playing game, Perky Pat, with an eerie resemblance both to the sickly sweet fairy tales of advertising and to the "special consensus" that has, since the development of the specialized audiences of the pulps, held networks of science fiction fans together. Palmer Eldritch is the business magnate who is the vessel for an alien lifeform that invades the sacrament of the Perky Pat game, seizes the reality of the player (and the reader), and drags it through a vertiginous corkscrew of incomplete worlds.

The theme of alien invasion runs through the works of William Burroughs. As direct descendant of the founder of the Burroughs adding machine corporation, it is little surprise that the war of the worlds related in centripetal fragments in his *Nova Express* concerns a battle over technologies of communication. A race of anthropomorphic reptiles from Venus controls weapons that record and replay images, controlling Earth by subjecting the population to a relentless addictive cinema of hallucinations. The narrative of this novella, like that of *Naked Lunch*, is rendered notoriously obscure by the use of the "cut-up" method of composition, in which the paper upon

which Burroughs typed the story was chopped into fragments of varying sizes and reassembled. This method – recalling the link between typesetting and cryptography in Poe – refigures the image of the world as a system of indefinitely de- and re-composable bits of information being presented by Norbert Wiener and his MIT allies during the early cybernetic age, as well as the noise that increases the more information is conveyed. The constant jumps in level of reference in Burroughs' writing – passages from satire to fantasy to quasi-factual reporting to confessional without warning – suggest, as Marshall McLuhan put it, "a non-stop express of innovation that cannot be endured indefinitely," the succession of overlapping and contradictory sensory environments (TV, computer, airplane, nuclear bomb) being introduced in the "electric age."[17]

9. Strange loops (slight return): radio, film, feedback

Such a reflexive play on the technologies of communication is, of course, possible in media other than writing. Like Poe, Orson Welles was a consummate performer and impresario; furthermore, the subject of Welles' works is frequently the pathological splitting of the self, an uncertainty about the relation between image and reality, and the productive and destructive impact of new technologies. The structural reflexivity of one of his works may epitomize the genre of science fiction: Though it would be a stretch to claim all of his works as science fiction, his breakthrough broadcast of a radio-play version of H. G. Wells' *War of the Worlds* on 30 October 1938, shares Poe's reflexivity about the medium of communication. In *Citizen Kane* (which begins and ends in a Xanadu whose name is taken from the same "Kubla Khan" that inspired "The Domain of Arnheim"), cinema envelops and constantly asserts its alterity and superiority to print; in *War of the Worlds*, however, the potentials of the relatively new network of radio were stretched to depict the non-existent technologies of the invaders. This media event exemplifies a recurrent structure of science fiction, one identifiable in the exploitation of the daily journal in the depiction of transatlantic travel that occurs in "The Balloon Hoax," Melies' early cinematic depiction of space flight in *Voyage to the Moon*, and the drag-racing star ships fabricated out of digital imagery in George Lucas' *Star Wars: Episode One*. These works' depiction of imagined technologies of the future reflect surreptitiously upon the power of a new medium in the present to fabricate consensus about what the "real world" is.

In film, Stanley Kubrick comes to mind as a recent, frequently science-fictional director with significant subterranean connections to Poe. We can note his speculative excursion in collaboration with Arthur C. Clarke in

2001: A Space Odyssey (echoing *Pym* in its narrative self-consciousness and its sublimely open-ended conclusion), the roundabout link via Nabokov's novel between *Lolita* and "Annabel Lee," the gothic tale of mental dissolution and haunting that recapitulates "The Black Cat" in *The Shining*, and the shrill apocalyptic satire of *Dr. Strangelove*. However, the director-auteur who may best realize Poe's understanding of science and science fiction as developed here is David Cronenberg. His *Dead Zone* (based on a story by Stephen King, like Kubrick's *Shining*) opens with a recitation of "The Raven" and deals with the dissolution of a man of exaggerated sensitivity who is haunted by a lost love and troubled by telepathic visions of the past, the present (à la "Tale of the Ragged Mountains"), and of regions beyond death ("Mr. Valdemar"). The self-destructive twins of *Dead Ringers* recall Poe's various doppelgangers with boundary issues, while *Videodrome*, *The Fly*, and *Scanners* meditate upon lifelike machines, the interpenetration between image and reality, and technologies that recreate nature. His recent film, *eXistenZ*, while exploring the implications of virtual reality, eschews the use of digital effects, suggesting that already with cinema (and other more ancient media or modes of structuring relationships between entities, such as religion, politics, drugs, and love) one is already dealing with a technology that dangerously intermingles art and life, producing "reality bleed-through effects." Similar themes organize his adaptation of *Naked Lunch*, in which the Burroughs character, William Lee, receives guidance through the mental / material Interzone via his contact / cockroach / typewriter. Lee sports the blank expression and almost parodically straight-laced attire of the film noir hero, what Burroughs called "banker drag"; this mode of self-presentation, like Magritte's men in bowler hats, is the twentieth-century update of Poe's fastidiously matter-of-fact narrators whose excessive emphasis on their own reasonableness and ordinariness is a foil for the shudders that traverse their reality.

It is no coincidence that many of the artists who combine a Poe-like reflection on technologies of communication as worldmaking devices with the presentation of "science fictional" scenarios frequently make use of mind altering substances as plot devices, and otherwise, as Poe notoriously also did. A drug, like other of Poe's mechanisms of displacement, is a medium that alters perceptions and shifts the parameters of the user's world. Perhaps because of the reports of alcoholism and opiate dependency that surround Poe, he has been a crypto-reference for various strands of "experimental" popular music from the 1960s onward. While Byron seems to be the main prototype for Jimi Hendrix's flamboyant persona and Georgian ruffles, his frequent journeys to outer space ("EXP," "Third Stone from the Sun"), identification with aliens, and excursions undersea and to the poles ("1983: A Merman

I Should Turn To Be"), lock *Electric Ladyland*'s "Burning of the Midnight Lamp" into place as a retelling of "The Raven." One could say that what Poe did with the steam press, steel type, the magazine short story, laudanum, and romanticism, Hendrix did with FM radio, electronic amplification, the long-playing album, LSD, and the blues. The psychedelic African-American man/outsider as extra-terrestrial (or electric angel) re-appears in George Clinton's Parliament-Funkadelic, and in such rap as the Ultramagnetic MC's and Dr. Octagon. In the year 2000, the theatrical designer Robert Wilson staged an homage to Poe's life and works in Hamburg and Paris with music by Lou Reed; the overdetermined genealogy connecting these two to the author of "The Bells" includes Wilson's collaboration with Baltimorean Phillip Glass on the minimalist / conceptual / sci-fi "Einstein on the Beach" and Reed's Baudelairean self-styling within Andy Warhol's Factory of art production as the poet of modern depravity and "Heroin," as well as his successive transformations under the guidance of Martian dandy David Bowie. Aficionados and sufferers of progressive rock have also been blessed and cursed by interpretations of Poe's works by Peter Hammill, Prism, and *Dark Side of the Moon* producer Allan Parsons.

To return to the written word, one of the major recent developments in the science fiction writing of the last two decades is "cyberpunk," whose pages are filled with new drugs, technology, alien intelligences, and a reconstructed, dystopian nature. The secret plottings of multinational corporations, the obsessive search for secure technologies of information storage and the means of violating them, and the marketing of genetic and viral engineering that pattern the vividly imagined worlds of William Gibson in *Neuromancer* and *Count Zero* seemed like interesting conceits when they appeared in the early eighties; they now are matters of course. Gibson – along with Thomas Pynchon and Jeff Noon, affiliated authors we can only note in passing – shares Poe's paranoid understanding of reality as a complex and possibly senseless conspiracy in which various human and nonhuman agencies struggle to define what counts as real.

In his early short story, "The Gernsback Continuum" in *Burning Chrome*, Gibson's protagonist experiences the streamlined utopias of the pulp science fiction of the 1930s as a nightmare scenario; he concludes that the current chaos is preferable to the monotone perfection that *Amazing Stories*' "scientifiction" promised.[18] Though clearly a central influence upon the gadget- and progress-centered science fiction of the late nineteenth century and early nineteenth century, Poe's reflections on science place him beyond the Gernsback Continuum, linking him instead to central concerns in current investigations of the relationships between art, humanity, and technoscience. Today as much as in the early nineteenth century, certain questions cannot

be avoided: What role do humans and their creations play in the shaping and reshaping of their world, and at what point have our efforts at mastery gone too far?

10. A last jest

The science and technology of Poe's age extended the experience of time, space, and matter, and showed that these seemingly immutable underpinnings of the world were open to change through human intervention. The obsession with technology that characterizes science fiction permeates Poe's writing inside and out, in its plot devices and its physicality, in its critical principles and its themes. His tales are acutely aware of their material basis, the historically-specific techniques upon which they rely to bring about the effect of verisimilitude. His works of literary criticism present a *science of fiction* that mirrors his investigations of the *fictions of science* we have sketched here.

Poe not only opened and redirected many lines of formal and conceptual development in speculative fiction, but added a grimmer, more anxious note to reflections on the future, demonstrating a canny awareness of the Faustian bargain to which our culture subjected itself when it put its faith in science's progress-through-destruction alone. His texts describe a set of unsettling machines whose function is to shift reality; his texts themselves are exemplary members of this set.

In this article, Poe has been presented as the definitive author of the steam, electric, electronic and nuclear ages, as the inventor of science fiction and metafiction, and as the patron saint of social constructivism, psychedelia, funk (via the Mothership Connection), punk (via the Velvet Underground) and cyberpunk (via the Mona Lisa Overdrive). Before accepting all of these claims, the reader may wish to bear in mind the following caveat, transmitted to us – in a bottle – by an ancient Cretan:

All statements about Poe are false, *including this one.*

NOTES

1. See Doris Falk, "Thomas Low Nichols, Poe, and the 'Balloon Hoax,'" *Poe Studies* 5 (1972): 48–49.
2. Quoted in Damien Broderick, *Reading by Starlight: Postmodern Science Fiction* (London: Routledge, 1995), p. 7. Gernsback's definition of the genre has of course been contested; John Clute and Peter Nicholls, *The Encyclopedia of Science Fiction* (London: Orbit, 1993), lists over twenty rival definitions. The present article accepts the selection made in Harold Beaver, ed., *Science Fiction of Edgar Allan Poe* (London: Penguin, 1976) as a core grouping of Poe's science fiction, while sympathetic with David Ketterer, *New Worlds for Old: The Apocalyptic Imagination, Science Fiction, and American Literature* (Garden City: Anchor Press, 1974), that nearly all of Poe's tales may be considered at least marginally science fictional.
3. See Andrew Ross, "Getting Out of the Gernsback Continuum," *Critical Inquiry* 17 (Winter 1991): 411–433.
4. Among the histories of science fiction that contest or qualify the inclusion of Poe's writings within the genre see Kingsley Amis, *New Maps of Hell* (London: Four Square, 1963); Paul K. Alkon, *Science Fiction Before 1900: Imagination Discovers Technology* (New York: Maxwell Macmillan, 1997); H. Bruce Franklin, *Future Perfect: American Science Fiction of the Nineteenth Century*, rev. ed. (New York: Oxford University Press, 1978); and Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (New Haven: Yale University Press, 1979).
5. See Alison Winter, *Mesmerized!* (University of Chicago Press, 1998).
6. Discussing the lush interiors of "The Visionary," "Ligeia," and "The Fall of the House of Usher," Ketterer, *New Worlds for Old*, p. 66, argues that Poe's rooms often serve as machines for transport to an "arabesque" or "intermediate" realm. Henri Justin, *Poe dans le Champ de la Vertige: Des Contes à Eurêka, l'Elaboration des Figures de l'Espace* (Paris: Klincksieck, 1991), likewise follows the motif of the "construction of the chamber" in several of Poe's works, linking it to the maelstrom and the "heart divine" of *Eureka*.
7. Suvin, *Metamorphoses of Science Fiction*, p. 228.
8. Recent cultural histories of sciences of this time include David P. Miller and Peter Hans Reill, eds., *Visions of Empire: Voyages, Botany, and Representations of Nature* (New York: Cambridge University Press, 1996); Martin Rudwick, *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists* (University of Chicago Press, 1985); Michel Serres, *Hermes: Literature, Science, Philosophy*, ed. Josué V. Harari and David F. Bell (Baltimore: Johns Hopkins University Press, 1982); Tom Standage, *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-Line Pioneers* (New York: Walker, 1998); John Tresch, "Mechanical Romanticism: Engineers of the Artificial Paradise," PhD Thesis, Cambridge University, 2001.
9. On comparable notions in epistemology, see Nelson Goodman, *Ways of Worldmaking* (Bloomington, IN: Hackett, 1978); Ian Hacking, *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999); Gaston Bachelard, *The New Scientific Spirit* (Boston: Beacon Press, 1984).
10. On Poe's hoaxes, Ketterer, *New Worlds for Old*, p. 54, writes, "Because all the grotesque tales are directed toward the demonstration that reality is a lie, a tale involving an act of chicanery should be seen in an analogical relationship to the illusory reality that man inhabits." See also Daniel Hoffman, *Poe Poe Poe Poe Poe Poe* (1972; reprinted, Baton Rouge: Louisiana University Press, 1998).
11. See Kevin J. Hayes, *Poe and the Printed Word* (New York: Cambridge University Press, 2000).
12. See Marshall McLuhan, "Edgar Poe's Tradition," *Sewanee Review* 52 (January 1944): 24–33.

13. See Ross, "Getting Out,"; Sam Moskowitz, *Explorers of the Infinite: Shapers of Science Fiction* (New York: World, 1963).
14. See Brian W. Aldiss and David Wingrove, *Trillion Year Spree* (London: Gollancz, 1986); Dieter Wuckel and Bruce Cassiday, *The Illustrated History of Science Fiction* (New York: Ungar, 1989).
15. Stanley Cavell, "Being Odd, Getting Even (Descartes, Emerson, Poe)," in *The American Face of Edgar Allan Poe*, ed. Shawn Rosenheim and Stephen Rachman (Baltimore: John Hopkins University Press, 1995), 3–36.
16. See Michael Williams, *A World of Words: Language and Displacement in the Fiction of Edgar Allan Poe* (Durham: Duke University Press, 1988); the issue is pursued in Terence Whalen's *Edgar Allan Poe and the Masses: The Political Economy of Literature in Antebellum America* (Princeton University Press, 1999). For those familiar with Gaston Bachelard's epistemology, it may be helpful to describe Poe's theory and practice of language as a *phenomenotechniques of writing*.
17. Marshall McLuhan, "Notes on Burroughs", *Nation* 199 (28 December 1964): 517–518.
18. Ross, "Getting Out," 411.