

SCIENCE AND EDGAR ALLAN POE'S PATHWAY TO COSMIC TRUTH

by

Mo Li

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Dissertation Committee:

Dr. Philip Edward Phillips, Chair

Dr. Maria K. Bachman

Dr. Harry Lee Poe

I dedicate this study to my mother and grandmother.

They taught me persistence and bravery.

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ABSTRACT

Poe's early grievance in "Sonnet—To Science" (1829) against science's epistemological authority transitioned into a lifelong journey of increasingly fruitful maneuvering. Poe's engagement with science reached its apogee in *Eureka: A Prose Poem* (1848), his cosmological and aesthetic treatise published near the end of his life. While exalting intuition and poetic imagination as the pathway to Truth, *Eureka* builds upon, questions, and revises a wealth of scientific authorities and astronomical works. Many classic and recent studies, however, appreciate the poetic value but overlook or reject the scientific significance of the treatise. In contrast, some scholars assess *Eureka* by its response and contribution to specific theories and methods of nineteenth-century or contemporary science.

Although some scholars have defended *Eureka*'s scientific achievements, they rarely investigate the role of science in Poe's other works, especially his early or enigmatic ones. More importantly, only a few critical studies have attempted to examine the trajectory of Poe's allegiance with science in his lifelong cosmological interests.

This study scrutinizes a distinctive set of Poe's works across his literary career to demonstrate how science, astronomy, and related fields, in particular, assisted and motivated Poe to seek the Truth and build a universe. The works analyzed include "Al Aaraaf" (1829), "The Unparalleled Adventure of One Hans Pfaall" (1835), the extensive endnote (1839) to the tale, *The Narrative of Arthur Gordon Pym* (1838), "The Power of Words" (1845), and *Eureka* (1848). Poe incorporated numerous astronomical events,

discoveries, and theories, the most significant of which include Tycho Brahe's supernova, lunar voyages, the United States Exploring Expedition, William Herschel's and Pierre-Simon Laplace's Nebular Hypothesis, Newton's laws of gravity, and Kepler's law of planetary orbits.

Instead of dismissing these scientific references as springboards for poetic imagination, this study inspects these scientific texts and contexts more closely to uncover their epistemological role in Poe's cosmos. The study argues that epistemological challenges and problems posed by scientific developments stimulated Poe to investigate the elusive nature of knowledge and develop his method of obtaining Truth. By contemplating the merits and limitations of science, Poe achieved his own fusion of science and poetic invention.

Keywords: Edgar Allan Poe, cosmology, epistemology, astronomy, science, *Eureka*.

TABLE OF CONTENTS

	Page
ABBREVIATIONS.....	viii
INTRODUCTION.....	1
CHAPTER I: CLAIMING A HOME ON TYCHO’S STAR: “AL AARAAF” AND THE POETIC VISION AND VISIBILITY.....	23
In Search of a Higher Home	30
The Trouble with Vision	33
Reclaiming the Night Sky	35
Conclusion	51
CHAPTER II: “TO DROP ENIGMAS”: EPISTEMOLOGICAL UNCERTAINTY IN “HANS PFAALL”.....	53
Hans Pfaall’s Self-Revival and Self-Reinvention.....	62
Poe’s Self-Revival and Self-Reinvention.....	72
Conclusion.....	77
CHAPTER III: “THAT WORD OF ALL WORDS”: THE PROBLEM OF KNOWING AND THE POWER OF WORDS IN <i>THE NARRATIVE OF ARTHUR GORDON PYM</i>	80
Jeremiah N. Reynolds and the Power of Words.....	81
Reynolds-like Characters in Poe’s <i>Pym</i>	88
The First Allegory of Knowing: Stumbling in the Dark on the <i>Grampus</i>	90

	Page
The Second Allegory of Knowing: Stumbling in the Dark of Tsalal.....	96
Interlude, or the Third Allegory of Knowing: Stumbling in the Dark of <i>Pym</i> ...	102
The Second Allegory Continued: The Physical Power of Words and the Paradox of Unity and Difference.....	105
Conclusion.....	117
CHAPTER IV: THE BIPARTITE SOUL OF THE SCIENTIST-POET: “THE POWER OF WORDS” AND THE MYSTERY OF CREATION.....	120
The Astronomer’s Eye.....	127
A Flight into the Nebular Hypothesis.....	130
The Mathematician’s Mind and the Lab of Organic Creation.....	138
The Poet’s Loss.....	143
Conclusion.....	146
CHAPTER V: “A RAPID WHIRLING” ON THE TOP OF ÆTNA: POE’S METHODS OF INCORPORATING SCIENTIFIC SOURCES IN <i>EUREKA</i>	148
Literature Review of <i>Eureka</i> as a Scientific Treatise.....	154
Rhetorical and Stylistic Analysis of Poe’s Incorporation of Scientific Sources..	162
Conclusion.....	196
EPILOGUE.....	200
BIBLIOGRAPHY.....	208

ABBREVIATIONS

- Collected Letters* [O] Ostrom, John Ward, Burton R. Pollin, and Jeffrey A. Savoye, eds.,
The Collected Letters of Edgar Allan Poe (two volumes)
- Levine [L] Levine, Stuart and Susan F. Levine, eds., *Eureka: A Prose Poem*
- Mabbott [M] Mabbott, Thomas Ollive, ed., *The Collected Works of Edgar Allan Poe*. Vol. 1, *Poems*; Vols. 2-3, *Tales and Sketches*
- Poe Log* [PL] Thomas, Dwight and David K. Jackson, *The Poe Log: A Documentary Life of Edgar Allan Poe, 1809-1849*
- Pollin [P] Pollin, Burton R., ed. *The Collected Writings of Edgar Allan Poe*. Vol. 1, *The Imaginary Voyages*; Vol. 3, *Writings in the Broadway Journal: Nonfictional Prose—Part I: Text*
- Thompson [ER] Thompson, G. R., ed., *Essays and Reviews*

All references to these texts will be cited parenthetically in the body of the study, using these abbreviations above. All other references will be cited in the footnotes.

INTRODUCTION

SCIENCE! meet daughter of old Time thou art
 Who alterest all things with thy peering eyes!
 Why prey'st thou thus upon the poet's heart,
 Vulture! whose wings are dull realities!
 How should he love thee — or how deem thee wise
 Who would's't not leave him, in his wandering,
 To seek for treasure in the jewell'd skies
 Albeit, he soar with an undaunted wing?
 Hast thou not dragg'd Diana from her car,
 And driv'n the Hamadryad from the wood
 To seek a shelter in some happier star?
 The gentle Naiad from her fountain-flood?
 The elfin from the green grass? and from me
 The summer dream beneath the shrubbery?
 (Poe, "Sonnet—To Science [untitled])¹

Although Edgar Allan Poe's first poetry collection, *Tamerlane and Other Poems*, had been published two years earlier, this version of "Sonnet—To Science" (1829),

1. This is the very first version of "Sonnet—To Science," untitled and published in *Al Aaraaf, Tamerlane and Minor Poems* (Baltimore: Hatch & Dunning, 1829), 11, Edgar Allan Poe Society of Baltimore, <http://www.eapoe.org/works/poems/sciencea.htm>. Poe would improve the imagery and musical quality of the poem tremendously in his later revision. For instance, the last line would read: "The summer dream beneath the tamarind tree" (M 1:91).

untitled at the time, is arguably the poet's most memorable early work. The speaker of the poem indicts science as the "Vulture" (line 4) who ruthlessly preys on "the poet's heart" (line 3). Science pesters the poet when he wishes to "seek for treasure" (line 7) in the starry night sky. When the poet sets out to enjoy his "summer dream" (line 14) in nature, he finds the forest, springs, and meadow tenantless; science has violently expelled the creatures of classical mythology from their idyllic, mystic dwellings. The poet laments that he can neither love nor admire someone whose "peering eyes" (line 2) rob his poetic vision and whose aggressive hands leave him friendless and dreamless.

Perhaps, to many readers, Poe's first major poetic statement is one of protest, lament, and longing in a world in which new views violently disrupt and displace the familiar landscape. This voice of protest, lament, and longing, in fact, recalls the turmoil in Poe's life, leading up to the composition of the poem. As his estrangement with John Allan,² his foster father, was exacerbated, Poe began to grapple with the notion of home with a mixture of anguish, disdain, and longing. As his attempt to win back Allan's affection failed, Poe vowed to attain success and fame. This unrest and longing for home

2. Soon after their mother's death on December 8, 1811, the orphaned three-year-old Edgar Poe and two-year-old Rosalie Poe were taken in respectively by the Allans and the Mackenzies. Rosalie Poe was legally adopted by the Mackenzies, but Edgar Poe was never adopted by the Allans. While Poe's relationship with Frances Allan, his foster mother, remained mutually devoted, his relationship with John Allan, the foster father, began to witness more and more disagreements as Poe grew older. During Poe's early years, John Allan provided his foster son with the comfort and education befitting a young Southern gentleman. He even took the young Poe with him during a five-year business trip in England. However, as a new college student at the University of Virginia, Poe found his financial and social status vulnerable when John Allan refused to offer sufficient funds to cover the necessary college expenses. In a desperate attempt to provide for himself, Poe resolved to gambling, only to find himself in a large amount of debt. In March 1827, during a visit to the Allan house, Poe fought bitterly with his foster father after discovering that the latter refused to pay for the gambling debts. The fights resulted in Poe storming out of the Allan house and traveling to Boston. After living in destitution for months, Poe joined the U.S. Army in May 1827, under the alias of Edgar A. Perry. Poe's first poetry collection, *Tamerlane and Other Poems*, would be published in a month or two after his enlistment.

compelled Poe to sign his first collection of poems “a Bostonian.”³ Poe’s second collection of poems, *Al Aaraaf, Tamerlane and Minor Poems* (1829), carries even more anxiety, hope, and ambition; the reader would recognize it simply by surveying the contents: two long poems written in the epic tradition and other shorter poems. In other words, amid his struggles and aspirations, the poet addresses the rising authority of scientific knowledge.

Writing about the shock and disillusionment brought about by science was not uncommon in the early decades of the nineteenth century, however. William Wordsworth, in his poem, “The Tables Turned” (1800), praises the teaching of Nature but denounces the value of knowledge acquisition through scientific endeavors:

Sweet is the lore which Nature brings;
 Our meddling intellect
 Mis-shapes the beauteous forms of things:—
 We murder to dissect.⁴

While the young Poe presents science as a predator who banishes poetic transcendence, the young Wordsworth reveals science as the muse for destruction. Wordsworth’s speaker

3. Philip Edward Phillips, in his article, “Poe’s 1845 Boston Lyceum Appearance Reconsidered,” convincingly argues for the psychological and artistic significance of Boston for Poe. Poe had two competing notions of home, Richmond (where he was raised) and Boston (where he was born and where his mother felt at home). When the lack of fatherly affection drove Poe to leave his home at Richmond, the young poet traveled to Boston to seek his fame as a poet, as his mother, Eliza, had achieved fame as an actress and “found her *best*, and *most sympathetic* friends” [qtd. in Phillips, 46, and in John Carl Miller, *Building Poe Biography* (Baton Rouge: Louisiana State University Press, 1977), 121]. Therefore, by signing his first poetry collection “a Bostonian,” Poe expressed his longing to be accepted and loved by the city, both as an artist and as a son.

4. William Wordsworth, “The Tables Turned,” in *Lyrical Ballads*, by William Wordsworth and Samuel Taylor Coleridge, ed. Michael Schmidt (London: Penguin, 1999), 102, lines 25-28.

warns of the danger of “murder[ing] to dissect” (line 28). We deform beauty and destroy life in the name of gaining knowledge or uncovering hidden mysteries. Intriguingly, “[w]e” (line 28) can include both scientists and poets—those driven by the need to know, but instead approach the subject as a beautiful unity—bow to the aggressive method of dividing and fragmenting. In sum, both the young Poe and the young Wordsworth perceived conflict between intellectual endeavors and aesthetic enjoyment, or between analytical approach and unified impression.

Based on “Sonnet—To Science” alone, one might be tempted to believe that Poe possessed a lifelong grievance against science and he was inclined to jest, resist, or belittle science, especially considering his vehement advocacy for literary imagination and poetic effect. Indeed, scholarship on Poe sometimes dismisses or undermines Poe’s involvement with science while praising Poe’s artistic achievements. For instance, in his classic essay, “The Angelic Imagination: Poe and the Power of Words” (1952), Allen Tate suggests that the scientific allusions in Poe’s “The Power of Words” are merely the writer’s “wildest inventions.”⁵ Discussing Poe’s contribution as a modern science fiction pioneer, H. Bruce Franklin assumes that Poe’s critique of science in “Sonnet—To Science” endured and claims that Poe’s engagement with science betrays its “antiscientific and escapist” nature.⁶ In a more recent study on Poe’s poetics, *The Poet Edgar Allan Poe: Alien Angel* (2014), Jerome McGann argues that both the subject and

5. Allen Tate, “The Angelic Imagination: Poe and the Power of Words,” *Kenyon Review* 14, no. 3 (1952): 472, <http://www.jstor.org/stable/4333351>.

6. H. Bruce Franklin, *Future Perfect: American Science Fiction of the Nineteenth Century; An Anthology*, rev. ed. (New Brunswick, NJ: Rutgers University Press, 1995), 94.

the main idea of *Eureka* “should be understood in poetical rather than philosophical or scientific terms.”⁷ Tate, Franklin, and McGann, however, misjudge Poe’s serious engagement with science.

In fact, almost immediately after “Sonnet—To Science” Poe invited science into his world of artistic creation. The sonnet that brands science as the predator of poetic heart serves as the prelude to “Al Aaraaf.” “Al Aaraaf,” Poe’s ambitious long poem written in the epic tradition,⁸ boasts a true spiritual home for the poet, i.e. the radiant wandering star that celebrates beauty, music, poetic imagination, and purity. In this poem, Poe establishes a cosmic order where the Deity reigns, the golden star of ethereal Beauty is appointed to spread the Divine message across the worlds, and the angelic subjects must remain fully devoted to their duty.⁹ If “Al Aaraaf” presents Poe’s first attempt to chart a universe, then scientific knowledge is recruited into the poetic space, not to hear more complaints from the poet, but to assist in the construction. The poem launches a long tradition of “marrying the false dichotomy between poetry and science.”¹⁰ In other words, science breathes from the very inception of Poe’s design of the cosmos.

7. Jerome McGann, *The Poet Edgar Allan Poe: Alien Angel* (Cambridge, MA: Harvard University Press, 2014), 102.

8. Daniel Hoffman, *Poe Poe Poe Poe Poe Poe Poe* (New York: Doubleday; Baton Rouge: Louisiana State University Press, 1998), 36-37.

9. Intriguingly, this dwelling of ideal Beauty is located on a specific scientific finding, the 1572 supernova of the Danish astronomer Tycho Brahe.

10. Elizabeth Vincelette, “Beauty, Truth, and the Word: The Prophecy and Theology in Poe’s *Eureka*,” *Edgar Allan Poe Review* 9, no. 2 (2008): 38, <http://www.jstor.org/stable/41506296>.

In addition, science plays an important yet often understudied role in helping “Al Aaraaf” respond to the epistemological question posed by “Sonnet—to Science.” While critics recognize that “Al Aaraaf” answers the challenge of epistemological authority, few have scrutinized or elaborated on how the answer is delivered via the use of Tycho’s 1572 nova. Contrary to the over-simplifying assertion that “Al Aaraaf” incorporates astronomy liberally only to fit the poet’s imagination, a careful examination of Poe’s maneuvering of the astronomical references shows that the poem challenges astronomical authority by offering an alternative account of the famous sixteenth-century celestial event. “Al Aaraaf” complicates the issue of epistemological value by celebrating a more unified and beautiful vision than the scientific eye can render. In sum, science motivates Poe to build a universe to explore the place of truth and the way to truth.

Therefore, since the beginning of his truth-seeking and cosmos-charting career, Poe had positioned science as one of the cornerstones of his thought. As a result, the role of science must be scrutinized if the reader wishes to understand more fully Poe’s lifelong project. My study aims to trace how science, especially astronomy and astronomy-related fields, informed, challenged, or stimulated Poe to discover the problems of acquiring knowledge, establish his own method to uncover cosmic truth, and envision his own version of the universe.

Throughout his life and literary career, Poe inquired into a wide range of scientific and pseudo-scientific fields, including mesmerism, phrenology, aeronautics, navigation, biology, geology, geography, chemistry, physics, and astronomy. However, Poe’s interest

in astronomy began especially early, as testified by the telescope brought back from England by John Allan and set up at Moldavia, the prominent Allan mansion where Poe lived before attending the University of Virginia.¹¹ Later, Poe's literary and critical writings would manifest his increased pursuit in astronomy. Besides appropriating Tycho Brahe's 1572 supernova into "Al Aaraaf," Poe surveyed the tradition of moon voyage narrative when composing the extensive endnote (1839) for his tale,¹² "The Unparalleled Adventure of One Hans Pfaall" (1835). Astronomy also made frequent appearances in "A Chapter on Science and Art," four installments of articles penned by Poe and published in the *Burton's Gentleman's Magazine*, from March to July 1840. In addition, the early 1840s witnessed Poe's increasing interest in the Nebular Hypothesis and its major popularizer John Pringle Nichol.¹³ Poe was contemplating astronomical theories and speculations to help him understand cosmic mysteries and design his own cosmos.

Poe's lifelong engagement with astronomy (and related fields such as physics and mathematics) reached its summit in *Eureka: A Prose Poem* (1848), his cosmological and aesthetic treatise published near the end of his life. *Eureka* refers to, builds upon, questions, and revises a wealth of scientific authorities and astronomical works, including

11. Harry Lee Poe, "'Everywhere Man': Poe and the Universe" (lecture, MTSU Honors College, Murfreesboro, TN, April 8, 2015). Now the telescope is part of the collection held at the Poe House in Baltimore.

12. The endnote was attached to the republications of the tale, first in *Tales of the Grotesque and Arabesque* (1840) and then in Rufus Griswold's *The Works of the Late Edgar Allan Poe* (1850).

13. Poe's interest in the hypothesis and Nichol can be observed in his review of Thomas Babington Macaulay (1841), "The Murders in the Rue Morgue" (1841), his review of Taylor Lewis (1845), and "The Power of Words" (1845). Chapter IV will elaborate on Poe and the Nebular Hypothesis in his literary and critical writings.

Sir John Herschel, Thomas Dick, Alexander von Humboldt, John Pringle Nichol, Pierre-Simon Laplace, Isaac Newton, and Johannes Kepler,¹⁴ just to name a few.

By weaving these scientific materials together, Poe presents the highest achievement of his universe-designing endeavor. After “Al Aaraaf,” Poe continued to explore and map out the material and spiritual universe through his literary writings. Initially he sketched the porous boundary between Life and Death¹⁵ and then revealed the two states as cyclic.¹⁶ As his literary career progressed, Poe outlined the rules, principle, and structures of the universe, especially in his tales of “the Future Condition of Man” (O

14. In their scholarly edition of *Eureka*, Stuart Levine and Susan F. Levine list the following major scientific works, among others, that have influenced Poe’s treatise: John Herschel’s *A Preliminary Discourse on the Study of Natural Philosophy* (1830) and *A Treatise on Astronomy* (1833), Thomas Dick’s *The Christian Philosopher* (1823), Alexander von Humboldt’s *Cosmos* (1845), John Pringle Nichol’s *Views of Astronomy* (1848), and Pierre-Simon Laplace’s *System of the World* (1809). Besides these volumes, Levine and Levine also identify Isaac Newton’s theory of gravity and Johannes Kepler’s model of elliptical orbits of the planets as the main sources for *Eureka*. Harold Beaver, in his commentary on *Eureka*, explains that “Poe’s scientific premises were threefold: 1 Keplerian physics on the elliptical orbit of planets. 2 Newtonian laws of gravity and motion. 3 Laplace’s wave-theory of light and nebular hypothesis” (397).

15. For instance, the bodies of Ligeia and Morella as well as the shadowy mass at the foot of the lost friend in “Shadow—A Parable” have become portals to the enticing yet terrifying secret of Life. Poe’s tales indicate that when tenacious or willful enough, the force of Life can overcome the stronghold of Death. Therefore, the boundary between Life and Death, or material and spiritual, is ambiguous and negotiable.

16. In “The Island of the Fay,” the boat of the fay circles the island and travels repeatedly through light and shadow, symbols of Life and Death. This pattern provides a glimpse into the larger cyclic order of the universe articulated later by Poe in *Eureka*.

1:474).¹⁷ All these notions and principles were then synthesized, developed, refined, reorganized, and reborn into the cosmic system in *Eureka*. *Eureka* delineates the Origin, Operation, and Ending of the material and spiritual Universe. It announces that God is not a spirit in the earthly sense, but “Matter in its extreme of Simplicity” (L 22), or the “unique” and “undivided” (L 23) particle. Through Volition, God creates the Universe by diffusing the ultimate Unity into many atoms, which in turn form into all kinds of material existence. However, the “diffusion from Unity” also includes “a tendency to return into Unity” (L 23), and this return is unstoppable until the process is completed. Therefore, it is only a matter of time, pre-set by God, before everything reunites with everything else and the total “*Annihilation*” (L 7) occurs. Nevertheless, the end of one Universe only initiates a new Universe and the cycle will continue everlastingly, since Divine Symmetry is demonstrated by the mutuality of beginning and ending as well as creation and annihilation.

17. These tales include one tale of mesmerism, “Mesmeric Revelation,” and the three angelic tales, “The Conversation of Eiros and Charmion,” “The Colloquy of Monos and Una,” and “The Power of Words” (M 3:1211). Set in the afterlife or in the vicinity of afterlife, these stories reveal that humans are to anticipate and rejoice in cosmic truths, yet at the cost of a definitive departure from the present material and social existence. Physical bodies would deteriorate, senses would fall into disarray, and earthly identities would be lost. The intellectual fruits harvested during the earthly era would be contested, ridiculed, or at least discarded, in dire need of renewal or evolving.

More importantly, the tales of “the Future Condition of Man” offer sketches of Poe’s construction of the universe. By relating how Earth meets its fiery end through a colliding comet, “The Conversation of Eiros and Charmion” provides a glimpse of the perfect and unfathomable Divine will. “The Colloquy of Monos and Una” documents the human experience of dying, decaying, and merging into the larger consciousness of the universe, thus suggesting the principle of Many returning to One at the end of life. “Mesmeric Revelation” revolutionizes the earthly distinction between spirit and matter by revealing that God, defined as spirit on earth, is only matter of the finest gradation, or “a matter *unparticled—without particles—indivisible—one*” (M 2:1033). Finally, “The Power of Words” shows the reader an interconnected universe and enlightens the reader on the mechanism of Creation.

By presenting a full picture of the Universe, *Eureka* also embodies the climax of Poe's lifelong truth-seeking project. As a literary author, Poe is often celebrated for creating tales of quest that send explorers into the unknown. These tales suggest that Truth, or ultimate mystery, inhabits an awful space beyond the reach of human physicality, intellectual grasp, and linguistic capability. To obtain Truth, therefore, the explorers must transcend their earthly confines and risk never returning to their former physical or spiritual state.¹⁸ If Poe's earlier tales demonstrate that the deeper mysteries are nearly unreachable to earthly minds, how would his treatise establish its method and legitimize its claims? In other words, how does the treatise reach ethereal truth from earthly materials? Although it is informed by a plenitude of scientific sources, *Eureka* defies obeying authorities blindly based on the commonly lauded logic or physical proof.

18. Sometimes the explorers never return and their findings become as elusive or questionable as the voyagers. For instance, the reader of "MS Found in a Bottle" could only speculate on what is beyond the icy whirlpool at the South Pole, since the journal of the passenger stops at the moment of the ship's descent. Similarly, the reader of "The Unparalleled Adventure of One Hans Pfaall" will never access Hans Pfaall's account of life on the moon, because the amateur-turned moon-voyager is forbidden to return to earth.

Sometimes Poe's truth seekers must retreat on the brink of discovery, guided by the urge of self-preservation, which renders "discovery" always beyond our grasp. For example, neither the fisherman from "A Descent into the Maelström" nor the city observer from "The Man of the Crowd" obtains the truth about their mystic yet formidable subject; the fisherman manages to escape at the last moment from the devouring vortex while the observer, having succumbed to deadly fatigue, decides against following the mysterious old man through the city.

Not every truth seeker survives and Poe's tales show that the moment of revelation does bring annihilation. For example, after a long, bitter quest for the identity and motive of his imposter, the protagonist of "William Wilson" finally destroys his adversary with a sword, only to see his own blood-stained image reflected in the mirror. Infuriated by a mysterious intruder dressed up as the victim of the plague, Prince Prospero from "The Masque of the Red Death" charges at the offending guest. However, both the brief quest and the life of the prince end when he realizes that the newcomer is not distasteful but truthful: the guest is not wearing the costume of death, but is Red Death himself.

If the journey to truth ends immediately at the end of the journeyer's life in these two stories, "Mesmeric Revelation" depicts a continuing quest beyond the truth-seeker's earthly life. The tale suggests a way to temporarily drop the veil between Life and Death to get a glimpse of truth gained in the afterlife. Mesmerized at his deathbed by the physician, Vankirk the patient ventures into the great beyond and continues to report his findings even in his death. However, the seemingly established bridge between life and death proves fragile. Frequently, Vankirk finds it difficult to express his findings and the physician has trouble grasping the meaning of the reporter. It appears that Vankirk's newly gained insights into the afterlife exceed the capability or logic carried by the earthly language.

Instead, the treatise evaluates and appropriates those sources according to higher guides: intuition and poetic imagination. *Eureka* exalts Beauty over science as the proof and embodiment of Truth.

Poe's treatise not only stands at the summit of the author's search for cosmic knowledge, but it also manifests Poe's most masterful union of scientific and poetic creation. Poe perceives science and poetry as two agents that can conjoin to venture into the formidable space of ultimate truth. At the end of *Eureka*, Poe even re-defines science as innately containing poetic imagination. Being able to recognize, assess, or engineer innovation means to soar with both the scientific and the poetic wing. This fusion is a central aspect of Poe, since, when losing sight of the ultimate union, one would fail to grasp completely the thematic, philosophical, and epistemological coherency of Poe's works. In particular, interpreting Poe's literary writing while dismissing its scientific atmosphere would undermine Poe's poetic ambition. Similarly, when evaluating Poe's scientific engagement without considering his literary mastery, one might risk reducing Poe's scientific maneuvering to inconsistencies and errors.

While Poe spent only months composing *Eureka*, he spent almost twenty years exploring, accumulating, and contemplating the core concepts and principles articulated in the treatise. The cosmic fusion of scientific and poetic creation was not developed merely within *Eureka*. Instead, ever since the early phase of his search for cosmic truths, science had motivated Poe to ponder its relation to literary invention, as is shown in Poe's 1829 "Al Aaraaf." Later, science increasingly informed and stimulated Poe to develop his

vision of a cosmos that unifies logic and intuition, science and poetry. Therefore, to better comprehend Poe's epistemological and cosmological developments, one needs to trace and examine the evolving place of science in these developments.

Scholars¹⁹ have noted that for Poe, science is “not a threat but an ally.”²⁰ To some critics, this allegiance is manifested in how Poe employs scientific knowledge to deliver a certain artistic effect in his literary writings. For instance, Laura Saltz states that the science of vision “provides the mechanism” for realizing “poetic transcendence” in “The Domain of Arnheim,”²¹ while Clarke Olney, Brett Zimmerman, and Richard P. Benton argue that Poe's familiarity with science contributes to the verisimilitude or realistic effect of his fiction.²² Other critics have perceived the allegiance of science in Poe's poetic ideas or principles. For example, Bruce Mills, in his *Poe, Fuller, and the Mesmeric Arts: Transition States in the American Renaissance* (2006), argues that Poe's principle of the single effect is inspired by mesmerism of the early nineteenth century.²³ Mills also

19. The scholarship on Poe and science, while reflecting the wide range of Poe's scientific engagement, is often scattered, with the exception of *Edgar Allan Poe in Context* (2013), edited by Kevin J. Hayes, which provides a series of brief surveys on Poe and the scientific and technological contexts that informed his writing.

20. Brett Zimmerman, “‘Moral Insanity’ or Paranoid Schizophrenia: Poe's ‘The Tell-Tale Heart’,” *Mosaic* (Winnipeg) 2 (1992): 47, Academic OneFile (edsgcl.14121131).

21. Laura Saltz, “‘Eyes Which Behold’: Poe's ‘Domain of Arnheim’ and the Science of Vision,” *Edgar Allan Poe Review* 7, no.1 (2006): 22, <http://www.jstor.org/stable/41506246>.

22. Clarke Olney, “Edgar Allan Poe—Science-Fiction Pioneer,” *Georgia Review* 12, no. 4 (1958): 416-21, <http://www.jstor.org/stable/41395580>; Zimmerman, “‘Moral Insanity,’” 39-48; Richard P. Benton, “Poe's ‘The Cask’ and the ‘White Webwork Which Gleams.’ (Edgar Allan Poe's Depiction of Nitrous Deposits in His Story ‘The Cask Of Amontillado’),” *Studies in Short Fiction* 2 (1991): 183-94. Academic OneFile (edsgcl.12165242).

23. Bruce Mills, *Poe, Fuller, and the Mesmeric Arts: Transition States in the American Renaissance* (Columbia: University of Missouri Press, 2006).

claims that Poe sees a connection between mesmeric practices and the writing of short fiction. Both rely on “certain techniques to gain control over the receiver and produce “desired effects”;²⁴ the somnambulant state of mesmerism is also identified by Poe as a space to combine rational and intuitive forces to reach true imagination.

In addition, scholars have argued that science enables Poe to engage in the human issues of his day. For instance, *Mesmerists, Monsters, and Machines: Science Fiction and the Cultures of Science in the Nineteenth Century* (2006), Martin Willis contends that Poe’s knowledge of and reflection on mesmerism and machines help him explore “the boundaries of human.”²⁵ Poe’s tales depict and question the capability of humans, as well as the difference between human and machine, material and spiritual. Recently, Marcia D. Nichols has argued that in “Some Words with a Mummy” the science of dissection and its cultural impact set the stage for Poe’s ambivalent position in racial politics.²⁶

In contrast to these discussions concerning the role of science in Poe’s artistic, poetic, and social engagements, the scholarship on the contribution of science to Poe’s cosmological and epistemological ideas focuses on *Eureka*. For example, in *The Science Fiction of Edgar Allan Poe* (1976), Harold Beaver discusses the scientific theories that

24. Ibid., 86. Similarly, yet on a smaller scale, Adam Frank also shows how Poe developed, through mesmeric practices, his notion of “writer-reader relations” and the idea of author’s manipulation. “Valdemar’s Tongue, Poe’s Telegraphy,” *ELH* 72, no.3 (2005): 636, doi:10.1353/elh.2005.0025.

25. Martin Willis, *Mesmerists, Monsters, and Machines: Science Fiction and the Cultures of Science in the Nineteenth Century* (Kent, OH: Kent State University Press, 2006), 98.

26. Marcia D. Nichols, “Poe’s ‘Some Words With a Mummy’ and Blackface Anatomy,” *Poe Studies* 48 (2015): 2-16. Project MUSE (edspmu.S1754609515000000).

are most fundamental to the making of *Eureka*.²⁷ More recently, in the endnotes to their scholarly edition of *Eureka* (2004), Stuart Levine and Susan Levine offer the most comprehensive and extensive annotations on the scientific sources that influenced *Eureka*.²⁸

Only a few studies, however, have offered a fuller-scale examination of the trajectory of science in Poe's lifelong cosmological developments to reveal how Poe's allegiance with science was formed. In *Origins of Poe's Critical Theory* (1925), Margaret Alterton maintains that Poe's study of astronomy helped him fashion the principle of Unity, the concept that governs both the poet's cosmology and poetics.²⁹ Alterton first identifies "Sonnet—To Science" and "Al Aaraaf" as proof for Poe's "awakening interest" in science.³⁰ She then offers one of the earliest source studies of Poe by presenting textual or conceptual connections between Poe's tales and astronomical materials, such as *Philosophical Transactions of the Royal Society of London*, David Brewster's edition of *Ferguson's Astronomy*, and Thomas Dick's *Christian Philosopher*. Alterton further states that Poe's "effort to find equality governing the physical world" led him to approve Laplace's Nebular Hypothesis and to eventually absorb yet revise the hypothesis for his

27. See especially Beaver's commentary [on *Eureka*], 395-415.

28. In their scholarly edition of *Eureka*, Levine and Levine annotate the scientific, philosophical, cultural, and literary references made in Poe's treatise. For the scientific references, Levine and Levine identify the scientific works that explicitly informed Poe's writing, discuss Poe's familiarity with the texts and his earlier use of these texts, evaluate the accuracy of Poe's interpretation and presentation of a scientific statement, and summarize other notable scholarship on Poe's scientific engagement in his literary or critical writings. For a more complete list of studies on the scientific sources, debates, and traditions engaged by Poe's treatise, see Chapter V of this study.

29. Margaret Alterton, *Origins of Poe's Critical Theory* (Iowa City: University of Iowa Press, 1925).

30. *Ibid.*, 133.

own cosmology in *Eureka*.³¹ Alterton concludes that the ultimate “use” of Poe’s scientific pursuit lies in its contribution to Poe’s critical theory: Science motivates Poe to re-conceive “the nature of the critical art,” “[enlarge] and [enrich]” his artistic theory, and tremendously alter “his practice” of the theory.³²

In his *The Place of Fiction in the Time of Science* (1990), John Limon examines Poe’s engagement with science in the context of American philosophy of science and the larger historical scene.³³ Limon believes that natural philosophy helped Poe develop and express the idea of Life within Life. While Poe’s earlier tales betray a sense of “terror” by the “infectiousness” of life forms,³⁴ the “living universe” in *Eureka* demonstrates “his longing for universal death.”³⁵ Gillian Brown also investigates the relationship between science and Poe’s idea of Life. In her article, “The Poetics of Extinction” (1995), Brown examines how nineteenth-century biological theories, especially those of Lamarck and Lyell, influence Poe’s aesthetic valorization and cosmological core of survival, death, multiplication of life, and the return of life.³⁶

While these studies provide valuable insights into the role of science in Poe’s construction of the universe, Alterton’s argument is especially convincing in

31. Ibid., 158.

32. Ibid., 165.

33. John Limon, “Poe’s Methodology,” in *The Place of Fiction in the Time of Science* (Cambridge, UK: Cambridge University Press, 1990), 70-120.

34. Ibid., 76.

35. Ibid., 82.

36. Gillian Brown, “The Poetics of Extinction,” in *The American Face of Edgar Allan Poe*, ed. Shawn Rosenheim and Stephen Rachman (Baltimore: Johns Hopkins University Press, 1995), 330-344.

demonstrating how Poe unifies celestial structures with poetic ideals. However, none of these studies examines the evolving role of science in Poe's development of epistemology, which would afford another effective way of understanding how Poe builds a universe that transcends the commonly perceived boundaries.

My study, therefore, aims to scrutinize a set of Poe's works across his literary career to trace how science, astronomy and related fields in particular, assist and motivate Poe in his truth-seeking and cosmos-designing career. In these works, Poe sometimes responds to the scientific theories directly, while he sometimes borrows the questions posted by the scientific context to develop his own epistemological notions. While some of the works selected will overlap with those studied especially by Alterton and Limon, my discussions furnish potential answers to some of the most enigmatic questions in these works. Also, my readings reveal new dimensions of the role of science in these works and uncover new connections between these works and *Eureka*.

I argue that Poe's early grievance against the epistemological authority of science transitioned into a lifelong journey of increasingly fruitful maneuvering. Scientific discoveries and theories provided Poe with the raw materials for his conception of the cosmos. More importantly, the epistemological challenge and problems posed by scientific developments also prompted Poe to investigate the elusive nature of knowledge and develop his own method of obtaining Truth. It is by contemplating the merits and limitations of science that Poe achieved his own fusion of science and poetic invention.

Chapter I examines Poe's treatment of Tycho's 1572 nova in "Al Aaraaf" (1829), the poet's early endeavor of creating a cosmos. Poe's poem responds to the rising epistemological significance of science depicted in "Sonnet—To Science," not by denouncing the value of scientific discovery, but by demonstrating the limitation of scientific observation in uncovering cosmic truth. By locating Al Aaraaf, the dwelling of poetic ideal, on Tycho's 1572 nova, the poem acknowledges that science can open the observer's eye to celestial wonder. However, the poem also employs the shadowy creatures of imagination and mystery to tell a story of the encounter between the nova and Earth, differing from that reported by the astronomer. Thus, Poe illustrates the limitation of scientific observation and shows that only the poetic eye can offer an intensified, unifying, and purifying display of Beauty, from which humanity's hope of redemption stems. As a result, the validity of poetic vision is restored and Poe reclaims the stellar home from science.

By scrutinizing how Poe incorporates and revises the famous sixteenth-century astronomical event, Chapter I discovers another consistency between "Al Aaraaf" and *Eureka*. While critics have long recognized how "Al Aaraaf" foreshadows *Eureka*'s exaltation of Beauty and poetic imagination within the cosmic order, this chapter suggests that "Al Aaraaf" also launches the poet's lifelong inclusiveness of science in his search for Truth. "Al Aaraaf" signals the beginning of Poe's fusion of science and poetic invention.

Chapter II investigates how Poe, motivated by the issue of scientific credibility, reflects on and exposes the equivocal nature of knowledge in his “The Unparalleled Adventure of One Hans Pfaall” (1835) and the extensive endnote (1839) to the tale. This chapter builds upon the scholarly consensus that Poe’s tale, despite its burlesque appearance, reveals Poe’s serious interest in astronomical knowledge; it also builds upon the critical insight that Poe’s 1839 endnote misleads the reader to believe that the 1835 tale was conceived to renovate the long literary tradition of lunar speculative fiction. The chapter, however, goes beyond evaluating Poe’s scientific knowledge and capability, showing instead that Hans Pfaall’s letter in the 1835 tale parallels Poe’s 1839 endnote because they both revive and reinvent the identity of the writer and his writing. The two acts of refashioning suggest that Poe has observed some kind of epistemological impossibility: no matter the appearance of verisimilitude, plausibility, or credibility, knowledge is a spectacle and the act of knowing is intertwined with truth and fiction. In addition, although it is almost impossible to ascertain truth because it is mediated by some conflicted or controversial agent, Poe’s tale suggests that we should nevertheless consider Beauty and imagination as possible signs of truth.

By examining the epistemological difficulty reflected in Poe’s “Hans Pfaall” and its endnote, Chapter II helps to uncover how scientific credibility initiates Poe to contemplate and develop two important epistemological principles that would be elaborated in *Eureka*: Beauty is the sign of Truth and Truth is impossible to obtain through earthly approaches or mindsets.

Chapter III discusses how Poe explores the problem of knowing, inspired by one of the most championed subjects of scientific exploration in the nineteenth century, the mystic South Pole and the Polar Region. Adding to the discussions of Poe's indebtedness and affinity for Jeremiah N. Reynolds, the eloquent promoter of the United States South Seas Exploring Expedition (1838-1842), this chapter shows that Poe's novella of Antarctica exploration, *The Narrative of Arthur Gordon Pym* (1838), both honors and counters the scientific and imperialistic rhetoric of Reynolds. On one hand, the novella praises Reynolds's mastery of rhetoric by depicting powerful story tellers and speakers who advocate for adventures. On the other hand, through a set of epistemological allegories, the novella demonstrates the innate weakness of human truth seekers and the annihilating effect of approaching cosmic truth. While Reynolds's expedition rhetoric gestures forward, Poe's novella compels the explorers to return to the engulfing Origin that resists conquering, knowing, or narrating.

By examining the epistemological significance of Poe's novella, Chapter III reveals some *Eureka* concepts in the making: the possession of mystic truth does not empower but annihilate the truth seekers; earthly minds cannot perceive Unity in the facade of distinction. In addition, the novella also uncovers part of the blueprint of Poe's cosmos, i.e. the symmetric relationship of Origin and End, creation and destruction. The principles of Symmetry and Unity would become the centerpiece in *Eureka*, when Poe presents the ultimate plot for the fate of the universe.

Chapter IV scrutinizes the astronomical allusions, largely overlooked by critics, in Poe's third angelic tale, "The Power of Words" (1845), to present how Poe's enhanced knowledge of and engagement with scientific theories inform and stimulate his construction of the universe. In the tale, Poe dramatizes the intellectual implications and controversies surrounding the Nebular Hypothesis to help him design an almost full-scale universe. In this universe, the inquisitive eye and soul are rewarded with Happiness, scientific discoveries are compatible with God's sovereignty, and creation is not only a mechanical process but also a poetic act.

By analyzing how Poe incorporates and responds to the intellectual, theological atmosphere surrounding the Nebular Hypothesis, this chapter indicates several epistemological and cosmological connections between "The Power of Words" and *Eureka*. Both works enlist the Nebular Hypothesis as part of the theoretical core, which indicates that science plays an increasingly significant role to Poe's universe. More importantly, they also exalt the pursuit of knowledge as irresistibly fundamental to human existence, present Creation as something gratifying yet destructive, and chart the universe as both mechanical and poetic.

Chapter V demonstrates the apogee of Poe's engagement with contemporary science by analyzing Poe's stylistic maneuvers in *Eureka* (1848), the climax of Poe's epistemological and cosmological project. As a poet who presents the origin, operation, and end of the material and spiritual universe, Poe needs to furnish his scientific credibility and convince the reader that intuition and poetic imagination, instead of

scientific authorities, are better guides to cosmic truth. To achieve these goals, Poe adjusts his stylistic strategies according to the identity of the scientists he enlists and responds to. For instance, for Newton, whose reputation and validity has been well established, Poe's narrator chooses to transform rather than discredit, his theories, so that the audience might perceive that science and imagination, or scientist and Poet, are compatible. For Laplace, whose faith in intuition echoes that of the narrator's but whose theory is challenged by physical evidence, the narrator guides the audience to see a clear distinction among merit, false weakness, and true weakness. While articulating these distinctions, the narrator demonstrates that his own scientific credibility comes from intuition, a truer and higher guide to Beauty and Truth. For scientific authorities such as Mädler (and others who develop Mädler's theory and believe in the material ether), the narrator rejects them ruthlessly by not only quoting other scientific authorities who have disapproved these theories, but also by dismantling the premise of the incorrect beliefs. In this way, the narrator presents himself as a scientist who can offer a vision of the Divine arrangement for the Universe in a way that is more unified, imaginative, and sublime than other scientists have attempted, because he investigates the cosmic truth guided by the instinct for true Symmetry.

Only a few critics have noted the importance of studying Poe's stylistic choices and effects when he incorporates scientific sources in *Eureka*. This chapter, therefore, contributes to this understudied aspect of Poe by scrutinizing his stylistic maneuvering. Poe's stylistic mastery attests to how Poe weaves scientific notions, dramatic effect, and

poetic intuition into one unified text that exalts Truth in Beauty. Poe's stylistic choices prove that to reach cosmic truth one must combine the power of both the scientist and the poet.

The study concludes with an epilogue that first reflects on Einstein's changing attitude toward *Eureka* and then discusses the significance of delineating the evolving role of science in Poe's lifelong epistemological and cosmological pursuits. Tracing Poe's scientific engagements helps the reader to further understand the author's ultimate project of unifying seemingly conflicting entities, such as observation and speculation, reason and intuition, science and poetic invention, matter and spirit, Truth and Beauty, as well as Life and Annihilation. Studying Poe, in turn, encourages us to further investigate the relationship between science and the literary world of nineteenth-century America. In addition, Poe's ambitious vision of Unity motivates us to contemplate the value and methods of innovation today, especially in interdisciplinary or multicultural contexts.

CHAPTER I

CLAIMING A HOME ON TYCHO'S STAR: "AL AARAAF" AND THE POETIC VISION AND VISIBILITY

On November 11, 1572, an unusually bright object in the evening sky caught the eye of one young Danish nobleman, Tycho Brahe.¹ The object appeared in the constellation of Cassiopeia and, more excitingly, seemed never to have existed before. Tycho, then twenty-six years old, had been devoting his time to the study of the stars instead of preparing himself to serve in the government, like most of his contemporaries of nobility did. After confirming the appearance of the "new star" with others around him, Tycho hurried home and began his observation. Soon, he concluded that the newcomer was neither a planet nor a comet, but a nonmoving star glowing in the spheres beyond the moon, regions generally accepted to be unchangeable, and, thus, attesting to the perfection of God's Creation.²

Tycho continued to observe the star and, in 1573, published his report in a slim tract, *De Nova Stella*. Although he decided to remain anonymous (for it did not suit a nobleman to write books), Tycho employed the booklet as an instrument to resolve his

1. My account of Tycho's discovery of the new star relies on: Victor E. Thoren, *The Lord of Uraniborg: A Biography of Tycho Brahe* (Cambridge: Cambridge University Press, 1990), 40-73; J. L. E. Dreyer, *Tycho Brahe: A Picture of Scientific Life and Work in the Sixteenth Century* (Gloucester, MA: Peter Smith, 1977), 38-69.

2. Frederic J. Baumgartner maintains that Tycho was not the first to challenge the Aristotelian-Ptolemaic belief that everything except the sublunary world remains unchangeable. Copernicus already had detected errors in Ptolemy's theory of the earth-centered universe. However, he did not possess strong physical evidence to refute the theory effectively (40). It was not until Tycho's 1572 nova and a series of significant celestial phenomena in the following seventy years that astronomers finally began to dismantle the Aristotelian-Ptolemaic system and eventually "[usher] in the scientific revolution of the seventeenth century." Frederic J. Baumgartner, "Starry Messengers: Supernovas, Comets and Sunspots Heralded the Scientific Revolution," *Sciences* 32, no. 1 (1992): 39, Academic OneFile (edsgcl.11971403).

long-standing struggle as a nobleman who desired to pursue astronomy more than a glorious place in politics.³ As he expanded his manuscript for the publication of *De Nova Stella*, Tycho intimated in the preface that he planned to “leave friends and homeland to go abroad” to distance himself from the lifestyle and opinions of his noble peers.⁴ Invoking Urania, the muse of the heavens, Tycho also versified his renouncement of aristocratic values and his devotion to astronomy in his “230-line poetic epilogue.”⁵ In a way, Tycho’s planned physical relocation was also a symbolic one. The star of 1572 “signaled the formal beginning of Tycho’s career as an astronomer.”⁶ It spurred him formally to leave the abode of lineage and obligation for the home of heavenly calling.

Over 250 years later, the 20-year-old Edgar Allan Poe was also seeking a more rarified home. His poem, “Al Aaraaf,” indicates that he succeeded. “Al Aaraaf” was most likely written by Poe while he was serving as an enlisted soldier in the U.S. Army (M 1:97).⁷ More importantly, it was conceived when Poe was grappling with the painful and lucid signs of his foster father’s growing detachment and ultimate alienation.⁸ Poe must have realized that he had lost his old home, and whatever greatness he wanted to pursue,

3. Thoren, *Lord of Uraniborg*, 65. The struggle had been going on for over ten years and adding to Tycho’s pile of unconventionality was also the fact that he had chosen Kirsten Jørgensdatter, a commoner, as his spouse.

4. *Ibid.*, 71.

5. *Ibid.*

6. *Ibid.*, 55.

7. Killis Campbell shares the same opinion in notes (for “Al Aaraaf”), in *The Poems of Edgar Allan Poe* (Boston: Ginn and Company, 1917), 171.

8. For the context of Poe’s estrangement with the foster father, see Note 2 in the Introduction of this study.

he must achieve it without John Allan's social, financial, or emotional support. While vacillating between the desire to be loved again and the impulse of berating Allan for his aloofness, between the fear of abandonment and the gratification in self-reliance, Poe sought to establish, through his artistic power, a place of purity, splendor, and awe, or a home that speaks for his worth.

Borrowing the title from the in-between place of heaven and hell described in the Koran,⁹ the poem depicts the "wandering star" (M 1:100, line 15) of Al Aaraaf, where Nesace, the personified divine Beauty "sprang [...] into birth" (M 1:100, line 31) and is attended by her maid Ligeia, the spirit of music, and other angelic beings. Poe's abode of Beauty permits "nothing earthly" (M 1:99, line 1) except beautiful flowers, melodious sounds, and pleasing scents; it harbors "nothing of the dross of ours— / Yet all the beauty" (M 1:100, lines 11-12). This world of pure Beauty is created as God's "resplendency" (M 1:105, line 141) and chosen to be God's messenger to all the worlds "[I]est the stars totter in the guilt of man" (M 1:105, line 150). As commanded by God, Nesace summons all the residents on Al Aaraaf to perform their heavenly duty. Everyone obeys except two spirit lovers, who heed only their own conversations and "the beating

9. Poe likely read about the notion of "Al Aaraaf" in George Sale's 1734 English translation of the Koran (M 1:95). In his "Preliminary Discourse" for the translation, Sale states that "al Orf," or "al Araf" the plural form, refers to "a wall or partition" between paradise and hell (67). The place is named so either because "those who stand on this partition will *know* and *distinguish* the blessed from the damned" or because the word indicates "any thing that is *high raised* or *elevated*" (Sale 67). Sale further discloses that the "Mohammedan writers" disagree with one another on the residents of this place: "Some imagine it to be a sort of *limbo*, for the patriarchs and prophets, or for the martyrs and those who" (67) stood out for their "sanctity" (68); some believe that the place is for people "whose good and evil works are equal" in measure so they must wait there and "perform an act of adoration" before entering heaven (68); others venture that the place contains people "who have gone to war, without their parents' leave" and sacrificed their lives thereafter (68). Comparing Sale's depiction of the Arabic "al Araf" to Poe's stellar dwelling, the reader can note that the two places relate little to each other except that they are an intermediate afterlife location. As Mabbott has pointed out, Poe "adopted" "little" of the Arabic al Araf (M 1:96).

of their hearts” (M 1:115, line 264). Just as the abode of Beauty is pure, the followers of Beauty must remain fully devoted. Thus, the two distracted spirits slip deeper and deeper into an eternity of death in slumber. In a word, Al Aaraaf embodies Poe’s emerging ideal of Beauty. As a dwelling, it is more beautiful, glorious, and lovable than earth yet unattainable to earthly lives. It is a place worthy of a poet’s praise and devotion. If he had been rejected by an earthly home, Poe could now honor a higher one.

Intriguingly, the starry home of Poe’s celestial Beauty is located on Tycho’s 1572 nova, the star that stimulated the astronomer’s professional (even spiritual) relocation. Although one can only speculate on Poe’s knowledge of Tycho, and it is less likely that Poe was familiar with Tycho’s career development,¹⁰ it is still notable that the same star emerged at Tycho’s and Poe’s respectively pivotal point of professional and personal development.

Poe did not conceal the connection between Al Aaraaf and Tycho’s nova. In his letter written in May 1829 to introduce himself and his poem to Isaac Lea at the Philadelphia publishing firm of Carey, Lea & Carey, Poe states that his Arabian purgatory is located on Tycho’s star: “I have placed this ‘Al Aaraaf’ in the celebrated star discovered by Tycho Brahe which appeared & dissappeared [*sic*] so suddenly—It is represented as a messenger star of the Deity, &, at the time of its discovery by Tycho, as

10. The source of Poe’s knowledge of Tycho and Tycho’s star is still unconfirmed. In his introductory note to “Al Aaraaf,” Mabbott states that Poe learned about Tycho’s nova “probably in an encyclopedia” (M 1:96). Floyd Stovall believes that Poe might have encountered the account of Tycho’s star in “some odd corner of a newspaper,” or when he read about Kepler who studied with Tycho. “An Interpretation of Poe’s ‘Al Aaraaf,’” *Studies in English* 9 (1929): 109n10, <http://jstor.org/stable/20779402>. If the latter is the case, Poe might have learned from Kepler that the new nova of 1572 launched the astronomical career of Tycho.

on an embassy to our world” (O 1:27). In his introductory note to the poem in two of the published editions, *Al Aaraaf, Tamerlane, and Other Poems* (1829) and *Poems* (1831), Poe also describes the nova: “A star was discovered by Tycho Brahe which burst forth, in a moment, with a splendor surpassing that of Jupiter—then gradually faded away and became invisible to the naked eye” (M 1:99). For the version later included for *The Raven and Other Poems* (1845), Poe altered the note to read: “A star was discovered by Tycho Brahe which appeared suddenly in the heavens—attained, in a few days, a brilliancy surpassing that of Jupiter — then as suddenly disappeared, and has never been seen since” (M 1:99n1).

While Poe’s portrayal of the 1572 nova evinces mystery and beauty, its discrepancy with Tycho’s account is also apparent. Floyd Stovall comments that “both statements” in Poe’s introductory note are “exaggerated.”¹¹ Indeed, while Tycho unexpectedly noticed a bright object in the night sky, he did not witness the star “burst forth” (M 1:99), as reported by Poe. Also, although Poe was accurate about the nova’s brightness “surpassing that of Jupiter” (M 1:99n1) that later “gradually faded away” (M 1:99), he seems to have suggested, misleadingly, that the star did not remain visible for very long. Actually, Tycho’s nova glowed for about sixteen months, from November 1572 to March 1574, during which time the brightness did decrease considerably.¹²

11. Stovall, “Interpretation of Poe’s ‘Al Aaraaf,’” 109.

12. Dreyer, *Tycho Brahe*, 41-42.

Therefore, the reader might conclude that Poe treats his source(s) liberally or that the historical star only functions as a springboard for the poet's imagination. In fact, perhaps because critics have not confirmed the source(s) and nature of Poe's knowledge of Tycho, many of them overlook the astronomical reference in Poe's "Al Aaraaf" except to acknowledge that Poe's imaginary star differs from Tycho's historical nova. For instance, Mabbott comments that except for the elements of "the dates of the new star's visit, its location in Cassiopeia, its colors, and the fear it aroused," "[t]he rest" of Poe's star is "almost a pure fancy" in relation to the nova of 1572 (M 1:96). However, Poe's introductory note seems to challenge the quick distinction between "fancy" and reality, or poetic creation and historical report. While Poe seems to have obtained sufficient details of the star's location, color, emotional impact on the observers, and, presumably, the duration of its visibility, he somehow misrepresents, twice, the star's visibility in the introductory note, rendering its duration to be much shorter. Here, the reader is compelled to ask whether the discrepancy is caused by mistake or by craft. If what Poe creates is a spiritual home on a historical star, it is worth investigating how his "fancy" meets, alters, or entangles with the reality.

A few critics, however, do examine the role of the 1572 nova in Poe's creation. For instance, situating the poem in Poe's later tales of apocalypse by fiery comets, Stovall claims that Poe's star is an agent that has "accomplished" the task of the "destruction of the world."¹³ Therefore, Poe's star "must not be confused with" Tycho's nova, since the

13. Stovall, "Interpretation of Poe's 'Al Aaraaf,'" 112.

former belongs to “a prophecy” while the latter represents “a history.”¹⁴ Stephen Rachman argues that by placing the Arabian purgatory on the nova of 1572, Poe merges the “abstract” and the “spiritual” with “a specific space in a fixed time.”¹⁵ Rachman maintains further that the method of concretizing the abstract through imagination can be traced from Poe’s “Al Aaraaf” to his tales of the grotesque and Arabesque, and eventually to *Eureka*, Poe’s cosmological treatise.

In contrast to understanding Poe’s treatment of Tycho’s star as the poet’s project on time and/or space, I situate the poem in Poe’s engagement with the authority of science and literary imagination.¹⁶ In “Al Aaraaf,” Tycho’s star is more than a poet’s liberal use of a scientific discovery. Rather, Poe chooses Tycho’s star strategically as his higher home visible to the whole world. By demonstrating the limitation of scientific observation and offering an alternative report to this sixteenth-century astronomical event, Poe restores the vision of the poet and the visibility of poetic imagination.

14. Ibid.

15. Stephen Rachman, “From ‘Al Aaraaf’ to the Universe of Stars: Poe, the Arabesque, and Cosmology,” *Edgar Allan Poe Review* 15, no. 1 (2014): 6, doi:10.1353/eap.2014.0010.

16. Christopher Kearns, in his article “Poe’s Peering Eyes of Science,” also discusses briefly Poe’s use of Tycho’s star in relation to science and poetic imagination. Kearns lists three poetic and psychological effects achieved by Poe’s incorporation of the sixteenth-century nova: First, Poe’s poetic eye “revivifies” an astronomical object that had been “lost” (75). Second, psychologically, Tycho’s star is celebrated for “its appearance-as-disappearance,” similar to “Poe’s relationship with his mother,” something “literally born dying” (75). Third, by staging poetry on “the ground of” science, Poe manifests his “reconception” of what it means to be a poet (76). While I agree with Kearns that Poe rethinks the nature of the poet by working with astronomy in “Al Aaraaf,” I read the incorporation as an act of restoring the poetic vision instead of that of reviving a lost scientific object.

1. In Search of a Higher Home

In a letter dated May 29, 1829, to John Allan, Poe requested his foster-father's help with the publication of "Al Aaraaf," a poem "which I have written since I left home" (O 1:29). The notion of home had been a sore spot for Poe, particularly since his time as a student at the University of Virginia. Raised in the Allan household as a foster son, yet never formally adopted, Poe now found the fatherly hand of John Allan, once affectionate, had become less and less supportive. Despite having inherited considerable wealth from his late uncle, William Galt, John Allan refused to pay for Poe's necessary college expenses such as boarding and laundry.¹⁷ At the same time, Poe's gambling debts, explained by Poe as the result of a failed attempt to cover his own bills,¹⁸ could not have helped improving his relationship with Allan. Thus, Poe's time at the University of Virginia ended within a year of his enrollment. However, Allan's house continued to look less like a home to Poe even after he returned to Richmond in December, 1826.¹⁹ Poe's letter, dated March 19, 1827, reports bitterly that Allan's habitual mistreatment and lack of affection have driven Poe to leave his old home to "find some place in this wide world" (O 1:10).

17. For a detailed account, see Arthur Hobson Quinn, *Edgar Allan Poe: A Critical Biography* (Baltimore: Johns Hopkins University Press, 1998), 109-113.

18. In his letter dated January 3, 1831 (O 1:58-63), written about a month before Poe left West Point, Poe revisited the circumstances that led him to gambling during his time at the University of Virginia. By providing a detailed account of the necessary university expenses, including laundry, rent, tuition, and books, Poe argued that John Allan had not offered sufficient funds for his foster son to proceed at the university. To cover his own living costs, Poe at first obtained high-interest loans. He then sought help from James Galt, a relative of the Allan family. After being refused by Galt, Poe "became desperate and gambled" (O 1:63). Poe berated John Allan for first abandoning and then unjustifiably accusing the foster son of daring deeds.

19. Quinn, *Edgar Allan Poe*, 114.

Poe embarked on his journey by going to Boston to seek a literary name. He published his first poetry collection, *Tamerlane and Other Poems*, under the name of “a Bostonian,”²⁰ suggesting Poe’s wish to embrace his birth city, where his mother, Eliza, considered home, made friends, and flourished in her performing career.²¹ Unfortunately, Boston proved indifferent to the young poet; Poe’s booklet, other than being noticed by two magazines, “made practically no impression.”²² A month or two before the quiet appearance of his poems, however, Poe enlisted in the Army, using the alias of Edgar A. Perry, because he had exhausted all other means of self-support.

If the Allan household from which Poe stormed out in early 1827 still bore the shadow of a home, it now confronted Poe with increasing evidence of alienation, and Poe responded with pride and ambition. While serving in the Army, Poe wrote several times to John Allan between December 1828 and February 1829, at first pleading for Allan’s consent to release him from the enlistment and later to recommend him a place at West Point. Sparked by Allan’s repeated silence regarding the entreaty and gesture of reconciliation, Poe speculated that Allan wanted nothing to do with his foster son because the latter, having joined the Army, would blemish a house of status: “I could not help thinking that you beleived [*sic*] me degraded & disgraced, and that any thing were

20. Ibid., 119.

21. Poe went to Boston to seek his fame as a poet as his mother Eliza had done to seek her fame as an actress. See Philip E. Phillips, “Poe’s 1845 Boston Lyceum Appearance Reconsidered,” in *Deciphering Poe: Subtexts, Contexts, Subversive Meanings*, ed. Alexandra Urakova (Bethlehem: Lehigh University Press, 2013), 41-52.

22. Quinn, *Edgar Allan Poe*, 128.

preferable to my returning home & entailing on yourself a portion of my infamy” (O 1:14). With disdain, Poe announced: “There is that within my heart which has no connection with degradation—I can walk among infection & be uncontaminated” (O 1:17). After defending his purity and defying the possibility of marring his old home, Poe declares his ambition to vindicate himself. If Allan abandons his son, Poe promises to be “doubly [ambi]tious, & the world shall hear of the son whom you have thought unworthy of notice” (O 1:17). He further proclaims his intention to transcend his old home and establish a new playground for himself: “Richmond & the U. States were too narrow a sphere & the world shall be my theatre” (O 1:17). In a word, Poe is eager to prove his worth and his ability to thrive beyond the home that rejects him.

Poe’s aspirations of great visibility fueled by his loss of an earthly home and his desire of a higher one are readily located in “Al Aaraaf.” When Poe wrote Allan again in May 1829 during a brief period of reconciliation—brought by the recent death of Frances Allan—Poe was hoping that Allan could promise to pay the publisher if “Al Aaraaf” failed to generate any profit. Poe reasoned that the possible financial cost was a worthy investment because it would help presenting his poem to the eye of the public, which would lead to fame. Poe expressed: “At my time of life there is much in being *before the eye of the world*—if once noticed I can easily cut out a path to reputation” (O 1:30). The phrase, “*before the eye of the world*,” is notable here, because it not only illustrates Poe’s confidence in his poem, but it also recalls and reiterates his earlier vow to achieve success

on a stage that is as wide as the whole world.²³ And what is more visible, or more appropriate to show the world, than a radiant star of Beauty?

2. The Trouble with Vision

The realm of stars and everything beneath them, however, seemed to have been taken over by science. The French writer and geographer, Jacques-Henri Bernardin de Saint-Pierre, in his *Studies of Nature*, laments that scientific knowledge has demystified our view of the natural world: “It is Science which has dragged down the chaste *Diana* from her nocturnal car: she has banished the Hamadryads from the antique forests, and the gentle Naiads from the fountains.”²⁴

There are unmistakable echoes of Saint-Pierre’s passage in the untitled “Sonnet—To Science,” the introductory poem to “all complete versions” of “Al Aaraaf” (M 1:90). In his sonnet, Poe depicts science as the ruthless “Vulture” (M 1:91, line 4) that deprives the poet his poetic vision when he desires to “seek for treasure in the jewelled skies” (M

23. Poe’s ambition suggests another subtle connection to his mother’s desire and success on the stage, however brief. For the most comprehensive study on Eliza Poe, see Geddeth Smith, *The Brief Career of Eliza Poe* (Rutherford, Madison, and Teaneck: Fairleigh Dickinson University Press, 1988).

24. Jacques-Henri Bernardin de Saint-Pierre, *Studies of Nature*, trans. Henry Hunter, vol. 2 (Philadelphia: Birch & Small, 1808), 248. <https://archive.org/details/0220231X2.nlm.nih.gov>. It appears that Poe did not consult these volumes from the University of Virginia Library while he attended the university from February to December 1826. David R. Whitesell, curator of the Albert and Shirley Small Special Collections Library at the University of Virginia, kindly informed me that while the library published a catalog of its holdings in 1828 and a facsimile reprint in 1945, not any edition of *Studies of Nature* was found in the 1828 catalog. Currently the Special Collections also holds three pre-1826 editions of the work, but they were all acquired by the library long after 1828. David R. Whitesell, e-mail message to author, March 6, 2017.

1:91, line 7). He further indicts science for its “exodus of fantastical creatures (the poet included):”²⁵

Hast thou not dragged Diana from her car?
 And driven the Hamadryad from the wood
 To seek a shelter in some happier star?
 Hast thou not torn the Naiad from her flood,
 The Elfin from the green grass, and from me
 The summer dream beneath the tamarind tree?²⁶

By violent actions of dragging, driving, and “tearing,” science not only has expelled the mythological characters from the natural world, but also has discredited the poet’s vision. If the poet cannot view the world with imagination, then he and his artistic project will also fail to remain visible to the world’s eye. The untitled “Sonnet—To Science,” therefore, as “an integral component of” Poe’s “Al Aaraaf,”²⁷ presents a problem for the latter to solve. If Poe the poet wants to present to the world his true, higher home, then he must find a way to reclaim the territory from science, especially the night sky.²⁸ He must preserve the imaginative and universal qualities of myth that contribute to a work of art’s Beauty.

25. Eric Martin, “‘Al Aaraaf,’ a Poem in Three Parts,” *Edgar Allan Poe Review* 10, no. 1 (2009): 47, <http://www.jstor.org/stable/41507858>.

26. M 1:91, lines 9-14.

27. *Ibid.*, 46.

28. As John Limon observes, “Poe sees the problem of science as a competition for space—for the sky—and to the end of his career, Poe will be clearing it.” “Poe’s Methodology,” in *The Place of Fiction in the Time of Science* (Cambridge, UK: Cambridge University Press, 1990), 72.

3. Reclaiming the Night Sky

Poe does recover the night sky from science through “Al Aaraaf.” However, he does not counter science by performing similarly crude acts to repudiate the value of scientific observation. Instead, he populates a famous celestial spectacle, generally considered the object of science, with music, color, scents, light, and sacredness. He claims his higher home of Beauty on Tycho’s star by first demonstrating the limitation of scientific observation and then enlisting the once-banished fantastic beings as witnesses and narrators of the scientific event. With an intricate hand, the poet reveals that the scientist is neither the first nor the authoritative observer to the matter of stars, God, or humans.

The nova’s appearance to earthly eyes had been reported already by Tycho the astronomer and is considered authoritative. However, the poem “Al Aaraaf” presents a history and meaning of the star beyond what the astronomical eye can offer. Notably, Poe might have continued to echo Saint-Pierre in “Al Aaraaf.” In his *Studies of Nature*, immediately after the section on science expelling fantastical creatures, Saint-Pierre challenges the value of recent scientific discoveries. With scorn, he questions: “From whence came to planet Cybele, discovered but yesterday by a German of the name of *Herschel*? It has been running it’s [*sic*] race from the beginning of the Creation, and was till of late unknown to us.”²⁹ The planet Cybele refers to the “Georgium Sidus,” i.e. the Georgian Star later named Uranus, discovered by Sir William Herschel in 1781, using his

29. Saint-Pierre, *Studies of Nature*, 248-249.

advanced telescope.³⁰ Saint-Pierre claims that human scientific endeavor produces limited results and contributes little to our understanding of the Divine Design.

Therefore, “Al Aaraaf” can be read as the poet’s remedy to the scientist’s failure in uncovering the origin and purpose of celestial objects. While Tycho the astronomer witnesses and records the nova of 1572, it is Poe the poet who transcends the limits of historical observation and provides the origin and mission of the star. For instance, the existence of the star goes beyond what Tycho sees as it appears to earth. While Tycho observes the star as positioned unvaryingly in the vicinity of the constellation of Cassiopeia, Poe’s poem reveals that the star is only enjoying its “temporary rest” there (M 1:100, line 18), after having traveled “[t]o distant spheres, from time to time” (M 1:100, line 24).

The poem then delivers the purpose of these travels by recounting the full story of the star in relation to God’s plan. Poe was influenced by John Milton during his composition of “Al Aaraaf” (M 1:95).³¹ Although much smaller in scale than *Paradise Lost*, “Al Aaraaf” is crafted to treat the topics of history and origin in a cosmic order

30. Michael Hoskin, *Discoverers of the Universe: William and Caroline Herschel* (Princeton: Princeton University Press, 2011), 49-51.

31. Poe prefaced the collection with a line from Milton’s *Comus*: “What has night to do with sleep?” In addition, the Miltonic influence is evident in the frequent references to Milton’s verses and ideas in “Al Aaraaf.” For instance, Angelo’s fall onto Al Aaraaf resembles the Miltonic Satan’s fall into Hell. In his verses and his footnote, Poe also questions Milton’s idea of modeling the image of God after that of humans. Most importantly, however, Poe aspired “Al Aaraaf” to be modeled after Milton’s epic poems, telling an origin story from the height of Divine Volition.

In fact, Milton was to continue to influence Poe. The artistic effect of Milton’s writings would be discussed in some of Poe’s most representative critical writings, “Letter to B—” (1836), “Philosophy of Composition” (1846), and “The Poetic Principle” (1850). Among Poe’s Miltonic references, *Paradise Lost* and *Comus* were to become the most quoted or referred to ones. Thomas P. Haviland, “How Well did Poe Know Milton?” *PMLA* 69, no. 4 (1954): 845, <http://www.jstor.org/stable/459934>.

prescribed by Divine purpose. The poem begins with the birth of Nesace, the personified “Idea of Beauty” (M 1:100, line 31) and ruling spirit of the star. Surrounded by “[r]ich clouds” in all kinds of colors (M 1:100, line 36), Nesace kneels down on a bed of flowers to pray to God. Nesace praises God for his power and beauty, and pledges to honor God’s will “[t]ill secrecy shall knowledge be / In the environs of Heaven” (M 1:104, lines 116-117). In a voice that withers “the red winds” (M 1:104, line 132), God replies by expressing his disappointment and displeasure that humans have wasted God’s love into “folly” (M 1:104, line 135) and interpreted the natural world as devoid of Divinity (M 1:104-5, lines 135-138). God then commands that Nesace lead the residents of the star and spread God’s message to “the proud orbs that twinkle” (M 1:105, line 148) before “the guilt of man” (M 1:105, line 150) brings destruction to all worlds. All residents but two lovers wake up to the summoning songs of Nesace and Ligeia, the spirit of music. And the negligent pair lose their lives, or afterlives, to the eternal night. Thus, Poe’s poem encompasses the appearance of Tycho’s star with an epic-like narrative of Divine volition, humans’ ignorance and disobedience, the possibility of destruction as punishment, and the hope of redemption through Beauty as God’s sacred messenger. In a word, “Al Aaraaf” does not dispute Tycho’s observation. Instead, it suggests that the sixteenth-century astronomical event reported by Tycho is but one glimpse of a long, beautiful, and formidable cosmic plot. This plot can be narrated only by a poet.

Having demonstrated the limited scope of scientific observation, Poe’s poem then advances its own reports of the star’s appearance to compete with Tycho’s account.

These reports are offered by the lovers living on Al Aaraaf: Ianthe, a “maiden-angel” (M 1:172, line 178), and Angelo, the spirit of Michelangelo, the great Italian artist who in history died eight years before the appearance of Tycho’s star. Sitting on a cliff with Ianthe and hearing none of the summoning songs of Nesace, Angelo fixes his “eagle gaze” (M 1:172, line 195) on his former home planet and recalls fondly his last day on earth and how his spirit travels to Al Aaraaf, “nearest of all stars” to earth (M 1:174, line 242). In response, Ianthe also describes the visit of Al Aaraaf to earth and how the angels are impressed by the beauty of “the heritage of men” (M 1:175, line 259).

To date, only a few critics fully considered the conversation between Angelo and Ianthe. The most often discussed aspect is the lovers’ doom as the consequence of neglecting Nesace’s call. For example, Killis Campbell states that the lovers’ ending “exemplif[ies] one of the central truths” that “even so worthy a passion as love may hinder one’s appreciation of the beautiful.”³² Claude Richard interprets the dialogue as a cautionary tale of “the downfall of the artist,”³³ while Floyd Stovall understands it as “an illustration of how the passion of love may cause the ruin of artist by distracting them from” their duty to beauty.³⁴ Daniel Hoffman argues that Poe adapts the Romantic motif of “the love between a supernatural being and a mortal” to show that one will be

32. Campbell, *The Poems of Edgar Allan Poe*, 191.

33. Claude Richard, “The Heart of Poe and the Rhythmics of the Poems,” in *Critical Essays on Edgar Allan Poe*, ed. Eric W. Carlson (Boston, MA: G. K. Hall, 1987), 197.

34. Stovall, “Interpretation of Poe’s ‘Al Aaraaf,’” 128.

“damned” for one’s own emotion and desire in the order of Poe’s beauty-worshipping universe.³⁵

However, none has approached the dialogue as an alternative account of the visit of Tycho’s star, even when some have debated the puzzling details of Angelo’s journey from Earth to Al Aaraaf. Angelo recalls that he dies around sunset at Lemnos and his spirit visits the Parthenon before leaving Earth with a leap: “as the eagle from his tower, / And years I left behind me in an hour” (M 1:113, lines 219-220). He ascends swiftly through earth’s atmosphere and watches the landscape of half the planet “unrolling as a chart” (M 1:113, line 223) in the process. Wonderstruck, Angelo exclaims that he almost desires to become human again: “beauty crowded on me then, / And half I wish’d to be again of men” (M 1:113, lines 225-226). If this part of Angelo’s journey is clear, the next part contains some of the most ambiguous passages of the poem.

“But, list, Ianthe! when the air so soft
 Fail’d, as my pennon’d spirit leapt aloft,
 Perhaps my brain grew dizzy — but the world
 I left so late was into chaos hurl’d —
 Sprang from her station, on the winds apart,
 And roll’d, a flame, the fiery Heaven athwart.
 Methought, my sweet one, then I ceased to soar
 And fell — not swiftly as I rose before,

35. Daniel Hoffman, *Poe Poe Poe Poe Poe Poe Poe Poe* (New York: Doubleday; Baton Rouge: Louisiana State University Press, 1998), 42-43, 43.

But with a downward, tremulous motion thro'
 Light, brazen rays, this golden star unto!
 Nor long the measure of my falling hours,
 For nearest of all stars was thine to ours —
 Dread star! that came, amid a night of mirth,
 A red Dædalion on the timid Earth.³⁶

Generally, critics agree that during the course of his ascension Angelo witnesses earth undergo chaos and then he plunges unto the star of Al Aaraaf. However, they debate the nature of the shaken earth and the fire experienced by Angelo. For example, Stovall claims that the description of earth on fire is only “poetic exaggeration” because earth still exists when Angelo and Ianthe watch it from Al Aaraaf.³⁷ In contrast, Richard Campbell Pettigrew and Marie Morgan Pettigrew attribute the propelled earth to Angelo’s shifted perspective. After leaving the influence of earth’s gravity, Angelo sees earth “shoot away from him instead of his seeming to shoot away from the earth.”³⁸ Pettigrew and Pettigrew also maintain that the fire covering earth must “refer to the brilliant illumination [...] by the setting sun.”³⁹

36. M 1:114, lines 231-244.

37. Stovall, “Interpretation of Poe’s ‘Al Aaraaf,’” 113.

38. Richard Campbell Pettigrew and Marie Morgan Pettigrew, “A Reply to Floyd Stovall’s Interpretation of ‘Al Aaraaf,’” *American Literature* 8 (1937): 443, Humanities & Social Sciences Index Retrospective: 1907-1984 (521435383).

39. Ibid.

While I agree that the fire seen by Angelo does not destroy earth and that the sudden blazing turmoil probably can result from an altered, confused perspective, I nevertheless find their interpretations to be unsatisfactory. Namely, they do not address other details of Angelo's account, such as "the winds apart" (M 1:114, line 235) accompanying the moving earth and the fire, or why Angelo "ceased to soar" (M 1:114, line 237) and begins to fall immediately after the chaos and the flames. In addition, reading the passage as an overstatement or metaphorical presentation of Angelo's experience fails to explain the mighty energy captured in these lines, such as the sudden hurling power, the springing earth, and the rolling flame.

Therefore, I argue for a literal reading of Angelo's narration. When we approach these lines as a direct report of what happens, we understand that Angelo's ascension is disrupted by a massive power that jolts Earth out of its place, generates gusts of air, and produces a spreading fire. The power also causes Angelo to begin falling through "[l]ight, brazen rays" onto the "golden star" of Al Aaraaf (M 1:114, line 240). It seems that the most straightforward answer to this kind of power would be that of a colossal explosion in space. Since Earth is not the body that explodes, it is reasonable to conclude that Al Aaraaf, the nearest star to Earth and at the time radiating with "brazen rays," is the one that bursts, releases great energy, and reshapes the course of Angelo's journey.

Interestingly, a massive explosion in space is exactly how astronomy today defines Tycho's star, i.e. a supernova. According to the National Aeronautics and Space Administration, a supernova is "a large explosion" occurring "at the end of a star's life

cycle” and it is “the largest explosion” in space.⁴⁰ Granted, in Poe’s day people had not discovered the cause or nature of a supernova.⁴¹ However, based on Angelo’s account, Poe seems to have portrayed Tycho’s star as a body in space erupting with intense energy and beauty.

In addition, both versions of Poe’s introductory note to the poem corroborate with the poem’s depiction of an exploding nova. As shown earlier in this chapter, the 1829 and 1831 editions of the note describe that Tycho’s star “burst forth,” reached an unusual brightness, and “gradually faded away.” The 1845 edition characterizes the star as appearing “suddenly in the heavens,” reaching great “brilliance,” and vanishing from sight “as suddenly.” Neither account is true to Tycho’s because both lead the reader to believe that the star was visible for a brief period of time, while in fact it lasted for sixteen months. Shortening the appearance of the star certainly renders it more mysterious, but it also intensifies and emphasizes its brightness. Therefore, Poe’s introductory note indicates that he envisions the appearance of the nova as a quick eruption of light and heat, or an explosion. In this case, when the earlier version of Poe’s

40. “What is a Supernova?,” Institute for Global Environmental Strategies and NASA Educational Technology Services, September 4, 2013, last modified September 16, 2015, <http://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-a-supernova.html>.

41. Stephen, Eales, *Origins: How the Planets, Stars, Galaxies, and the Universe Began* (London: Springer, 2007), 96.

note distorts what Tycho observes by presenting the star “burst[ing] forth,” it nevertheless suggests how Poe visualizes the stellar wonder.⁴²

Some readers might question the relevance of explosions in Poe’s life. After all, Poe is often characterized as the pursuer of heavenly Beauty and sketcher of intricate mystery that affords us a glimpse of the unearthly human soul. Poe, however, was no stranger to explosions, especially when he was writing “Al Aaraaf.” William F. Hecker argues that the understudied military experience of Poe actually “formed and reinforced key aspects of” the poet’s artistic principles.⁴³ While serving in the Army, Poe was promoted to “the position of artificer” on May 1, 1828, which required him to inspect bomb designing and making.⁴⁴ As a result, Poe not only witnessed frequently the fiery, swift, and fearsome power of explosives, but he also helped engineer them. He understood the craft of bringing forth an eruption of power by working out a myriad of elements meticulously. Hecker maintains that Poe’s experience with bomb designing

42. For a moment, an article titled “Modern Astronomy” in the April 1825 issue of the *North American Review* appears as a promising candidate for Poe’s elusive source on the supernova. The 1828 library catalogue indicates that in 1828 the library held some issues or volumes from 1825, but it is unclear whether the April 1825 issue was available when Poe was attending the university in 1826. David R. Whitesell, e-mail message to author, March 6, 2017.

“Modern Astronomy” discusses Tycho’s star as an example of our changing universe: “A remarkable instance occurred in the famous star observed by Tycho, which, in a moment, burst forth with a splendor exceeding that of Jupiter, and then gradually faded away till it became invisible to the naked eye, being now visible only with the assistance of a telescope” (339-340). This description seems almost identical to Poe’s 1829 and 1831 versions of the introduction, especially with the phrase “burst forth” and its vagueness about the duration of the nova’s visibility.

However, this article should not be considered Poe’s main source because it does not include other details about the star, the location, the colors, and the emotional impact, which Poe’s poem demonstrates so clearly. The article is anonymous, but its author is identified by Ronald L. Numbers as Nathaniel Bowditch, the famous early nineteenth-century American mathematician (137n20) who translated Laplace’s *Celestial Mechanic*.

43. William F. Hecker, introduction to *Private Perry and Mister Poe: The West Point Poems, 1831*, by Edgar Allan Poe, ed. William F. Hecker (Baton Rouge: Louisiana State University Press, 2005), xxi.

44. *Ibid.*, xxxiii.

ingrains his later theory of having different components achieve the effect of Beauty in an art work.⁴⁵

Therefore, given how the effect and construction of explosives are entrenched in Poe's life, it is perhaps not surprising to see why he shortens the duration of Tycho's star and highlights its brightness. Deviating from Tycho's report and presenting the star as the likeness of a massive explosion in space intensifies the visual effect of the star. The "brazen rays" of the "golden star" (M 1:114, line 240) now evince more beauty and power.

More importantly, placing Angelo first at the vicinity then at the heart of the star's explosion reasserts both the importance and the vision of the artist. Angelo, the fictional character of Michelangelo the great artist, has become witness to and recorder of the appearance of Tycho's star. Angelo's account indicates that he arrives at Al Aaraaf via the radiant outburst of the nova. Some might wonder whether Angelo's transference to the star is more of an accident than a destiny reserved for worthy artists. However, for an artificer like Poe, the cause of an explosion is rarely accidental, or at least it should not be. Thus, it is very likely that Al Aaraaf undergoes its explosive stage at the exact time of Angelo's ascension so that Angelo can be extracted to his true spiritual home. In this way, Angelo's account of Tycho's star attests to the significance of artists: their souls belong to a higher home and their acceptance into this home is ensured by the most spectacular cosmic mechanism. In addition, depicting Angelo experiencing the stellar explosion

45. Ibid., xl.

suggests that an artist's soul is closer to the celestial display of beauty and power. It also demonstrates that an artistic eye is closer to truth than the scientific eye, because the former has recorded something outside of or unavailable to the vision of the latter. If the poet in the untitled "Sonnet—To Science" complains that his vision of the world has been displaced by science, Angelo's report reclaims from the scientist a beautiful celestial home, a place only an artistic soul can observe truly.

Shortening the visible duration and presenting the star like a military ordinance⁴⁶ is not the only modification to Tycho's record of the nova. In fact, the poem also reverses the developmental phases of the star through the accounts of both Angelo and Ianthe. The effect is to suggest a unifying, transcending vision of beauty as the hope for mankind's redemption. According to Tycho, as the brightness of the star declined, the color of it also changed "from a clear whiteness akin to Jupiter's to a reddish tinge resembling Mars or Aldebaran [...] to a grayish 'lead-en' color in May similar to Saturn or Venus."⁴⁷ According to another biographer of Tycho, the color sequence was white, yellow, red, and then lead-like.⁴⁸ Tycho also announced the astrological meaning of the different phases of the nova: the earlier bright white or yellow phases "brought good fortune and health" while the later red phase foretold "warfare, plague, rebellion, captivity of princes, and the

46. René Van Slooten links Poe's familiarity with artillery to his concept of a universe that "continually destroys and renews itself in an endless succession of violent collapses and brilliant explosions." "Edgar Allan Poe: Artillerist-Poet and His Explosive Legacy." *Baltimore Post-Examiner*. October 18, 2016. baltimorepostexaminer.com/edgar-allan-poe-artillerist-poet-explosive-legacy/2016/10/18#sthash.4jvjVS8S.dpbs.

47. Thoren, *Lord of Uraniborg*, 68.

48. Dreyer, *Tycho Brahe*, 41-42.

like.”⁴⁹ The red stage of the star, in particular, provoked an increasing amount of “hysterical announcements predicting the end of the world.”⁵⁰ In a word, the color of Tycho’s nova underwent various stages and the red stage stood out because it was seen as a distressing symbol of catastrophe.

If the historical nova’s lead-like final phase is echoed by the description of Angelo and Ianthe losing their afterlives to “[t]he night that waned and waned and brought no day” (M 1:115, line 262), the luminous stages and the red stage are also portrayed in the poem. However, based on the narration of Angelo and Ianthe, the red phase, in fact, precedes the white/yellow phase, contrary to Tycho’s depiction. Angelo thus delineates his fall onto Al Aaraaf:

Nor long the measure of my falling hours,
 For nearest of all stars was thine to ours —
 Dread star! that came, amid a night of mirth,
 A red Dædalion on the timid Earth.⁵¹

In the first two lines above, Angelo reveals that it does not take long for him to land on Al Aaraaf because the star is the closest one to Earth. Then, as a supplementary description of this nearest star, the next two lines add that the star first comes to Earth as a sign of

49. Thoren, *Lord of Uraniborg*, 70.

50. Baumgartner, “Starry Messengers,” 40.

51. M 1:114, lines 241-244.

trepidation, namely the fearsome red artwork of God.⁵² The phrase “amid a night of mirth” can be confusing here. Readers might think that the night refers to sometime later of the same “autumn eve” (M 1:113, line 220) on which Angelo dies and flies to Al Aaraaf. If so, it could mean that Angelo first falls onto the explosive, golden Al Aaraaf and then participates its visit to Earth during the red stage. This interpretation sounds plausible at first, but Ianthe’s narration quickly clarifies that the red stage of the star comes before the golden stage.

Angelo’s account that the red star “came” (M 1:114, line 243) to Earth is followed immediately by Ianthe’s expression:

We came — and to thy Earth — but not to us

Be given our lady’s bidding to discuss:

We came, my love; around, above, below,

Gay fire-fly of the night we come and go ...⁵³

The corresponding, echoing occurrences of “came” in the lovers’ account suggest that Ianthe’s visit to Earth via Al Aaraaf happens at the same time of the emergence of the red “Dread star” (M 1:114, line 243) recalled by Angelo. That is to say, Al Aaraaf first approaches Earth as a red star. The red stage appears first.

52. Thomas Ollive Mabbott interprets convincingly that “Dædalion” is “a proper noun” originated in Daedalus, “the ‘cunning’ artificer of wings” (M 1:126n244). As a result, the approaching Al Aaraaf is depicted as “a carefully designed artifact” of God, just like the ingenious handiwork of Daedalus (M 1:126n244).

53. M 1:114, lines 245-248.

Ianthe continues to picture Al Aaraaf's encounter with Earth. Her portrayal supports Angelo's experience with the explosive, luminous stage of the nova.

Dim was its little disk, and angel eyes
 Alone could see the phantom in the skies,
 When first Al Aaraaf knew her course to be
 Headlong thitherward o'er the starry sea —
 But when its glory swell'd upon the sky,
 As glowing Beauty's bust beneath man's eye,
 We paus'd before the heritage of men,
 And thy star trembled — as doth Beauty then!⁵⁴

Seen from afar by Al Aaraaf, Earth is only an inconspicuous shape and an idea of the next destination. However, Ianthe recalls that when the “glory” (M 1:115, line 257) of Earth is suddenly revealed, the angelic beings on Al Aaraaf “paus'd before the heritage of men” (M 1:115, line 259), enthralled by the magnificent beauty of Earth. Since Earth does not produce its own light, the reader can infer that there must be a substantial light source nearby so that Earth can reflect the light and have its resplendency “[swell] upon the sky” (M 1:115, line 257). While the sun could be the said light source, Al Aaraaf is the “nearest” (M 1:114, line 242) star to Earth, as Angelo reports. As a result, it is more likely that Al Aaraaf discovers the brilliancy of Earth by shining the star's own rising light. Apparently, in order to illuminate Earth completely, Al Aaraaf cannot stay in the red

54. M 1:114-15, lines 253-260.

stage, the phase when it first approaches Earth. Instead, it must have transitioned into the intensely luminous white/yellow stage. Here, the reader recalls that Angelo does fall onto the “golden star” through “[l]ight” and “brazen rays,” signs of energy eruption. Also, Ianthe’s depiction of the trembling Earth (M 1:115, line 260) corroborates with Angelo’s memory of Earth being thrown out of its place (M 1:114, lines 234-235). In a word, Ianthe’s account highlights the explosive, luminous stage of Al Aaraaf and her account supports Angelo’s experience of journeying midst the turmoil of stellar explosion.

Combining the lovers’ accounts has demonstrated that Poe’s poem produces an alternative story of the sixteenth-century astronomical event. By reversing the developmental phases of Tycho’s star, Poe’s version highlights the unified view of beauty achieved when the ethereal and the earthly meet. While Tycho’s eye sees the star turn yellow first and then red, which suggests that beauty and wonder are followed by warning and fear, Poe counters with the poet’s view, showing that the star emerges red and then erupts into radiant golden. If the red stage resembles the ignition of an explosive, then the following golden stage represents the full release of the sublime power. In this way, the stage of fear is replaced quickly by that of an intensified display of Beauty, notably for both heaven and earth. In the poem, when the light of Beauty shines on Earth, issuing the call to repent, Earth naturally “trembled” (M 1:115, line 260) at the sight of divine power. At the same time, however, the Messenger Star of God is also arrested by the illuminated human abode and “the heritage of men” (M 1:115, line

259). This mutual impact indicates what the Poet can see, i.e. a divine light that filters all the “dross of ours” (M 1:106, line 11) and captures Earth in one unified view of beauty.

In fact, Angelo, the seraph who used to be a human artist, cherishes this transcending vision of beauty the most. Although he now lives on the “brighter” (M 1:114, line 228) Al Araaf, where he can enjoy “woman’s loveliness” and “passionate love” (M 1:115, line 230), Angelo seems to indulge more in his reminiscence of earthly beauty than in his affection for Ianthe, the angelic lover sitting next to him. When recalling his visit to Parthenon, Angelo even praises that the temple bears “[m]ore beauty ... around her column’d wall” (M 1:113, line 216) than the physical beauty of his lover. If the beauty of one temple can bring so much pleasure to the artist, the agglomeration of numerous beautiful sights of half the earth is sure to impress and elevate Angelo immensely. And indeed, as his soul rises higher and higher above Earth and as he watches half the globe unfold like one “chart” (M 1:113, line 223), Angelo confesses: “beauty crowded on me then, / and half I wish’d to be again of men” (M 1:113, line 225-226). For Angelo, this is a moment between earthly and unearthly consciousness, or between the mundane and the transcendental. It is also exactly the moment when Angelo is flooded by a unified view of beauty. Perhaps Angelo is the true embodiment of the Poet, since he witnesses and worships a unified, elevated view of beauty, no matter where he dwells or whom he should attend. In sum, by commemorating the moment of obtaining a unified, transcending vision of beauty, Poe’s poem lauds both divine sovereignty and human achievement. As a home to the poetic, the legendary, and the imaginative beings, Al

Aaraaf indeed houses exemplary beauty and represents God's Will. More importantly, it beckons the humans to adopt an angelic view, an otherworldly light which filters all the earthly dross but collects all the wonders into one picture of beauty.

4. Conclusion

When he praises Poe as the ambitious "poet-prophet,"⁵⁵ Daniel Hoffman makes a connection between "Al Aaraaf" and Poe's short poem, "Alone," written in 1829 but published in 1875. Hoffman states that Poe announces "his own vision of [...] cosmological truth" from "that remote star which he alone has seen."⁵⁶ Although Hoffman's insight captures Poe's originality of placing the Arabic in-between place on a celestial wonder, his emphasis on the "evanescent" nature of Poe's star requires re-evaluation, especially when he comments that Poe "writes as though the real world were completely irrelevant."⁵⁷ In fact, the unearthly star of Al Aaraaf engages intimately with the tension between scientific knowledge and poetic imagination.

Poe creates Al Aaraaf as a otherworldly abode of ideal Beauty to impress his estranged foster father, to carve a place for himself before the whole world, and to show that he belongs to a higher, purer, and more beautiful home. It is noteworthy that Al Aaraaf also materializes on Tycho's 1572 nova, the venue of the famous astronomical event. Choosing the historical nova as the dwelling of poetic ideal suggests that Poe acknowledges the value of scientific discovery in opening eyes up to celestial wonder. At

55. Hoffman, *Poe Poe Poe Poe*, 37.

56. *Ibid.*, 37-38.

57. *Ibid.*, 38.

the same time, however, Poe employs the shadowy creatures of imagination and mystery to tell a different story of the encounter between the nova and Earth. The story illustrates the limitation of scientific observation but demonstrates that only the poetic eye can offer an intensified, unifying, and purifying display of beauty, from which mankind's hope of redemption stems. As a result, the validity of poetic vision is restored and Poe reclaims the stellar home from science.

Thus, Poe's ideal of Beauty and poetic imagination does not censure or reject the value of science. While "Sonnet—To Science" expresses the poet's tension with scientific knowledge, Poe's engagement with science was a complex design since his early literary career. The contexts, objectives, and methods regarding this engagement deserve more careful scrutiny.

CHAPTER II

**“TO DROP ENIGMAS”: EPISTEMOLOGICAL UNCERTAINTY IN “HANS
PFAALL”**

The very beginning of “The Unparalleled Adventure of One Hans Pfaall”¹ evinces a combination of madness and jest. The tale opens with a mysterious descent of a strange balloon, “manufactured entirely of dirty newspapers” (P 1:388) and controlled by a small, earless, and unearthly looking aeronaut, into the heart of the City of Rotterdam.² The public is excited and puzzled by the sudden spectacle, when the aeronaut tosses out a letter, addressed to the burgomaster Superbus Von Underduk and Professor Rubadub, respectively President and Vice-President of the Rotterdam College of Astronomy.³ The letter is allegedly written by one Hans Pfaall, the city’s bellows mender, who has gone

1. In his commentary on the tale in *The Science Fiction of Edgar Allan Poe*, Harold Beaver states that the spelling of “Pfaall” went through “at least four” different forms—“Phaal,” “Pfaal,” “Pfaall,” and “Phaall” (Commentary 343n1). According to Stuart Levine and Susan F. Levine’s *The Short Fiction of Edgar Allan Poe*, “Pfaall” was used when the tale was first published in 1835 in the *Southern Literary Messenger*, while “Pfaal” appeared in the 1840 *Tales of the Grotesque and Arabesque* and the later Griswold edition (613n1). In this chapter I will follow the spelling of “Pfaall” in Burton R. Pollin’s edition of the tale (P 1:387-433).

Scholars also speculate about the pronunciation of the various forms of “Pfaall.” For instance, Beaver suggests that it is an inversion of the word “laugh,” in accordance with the story’s hoax nature (Commentary 339). J. O. Bailey maintains that the name could be pronounced as “fail,” a “sardonic reference” to his own unsuccessful years around the publication of the story. “Sources for Poe’s *Arthur Gordon Pym*, ‘Hans Pfaall,’ and Other Pieces,” *PMLA* 57, no. 2 (1942): 533n92, <http://www.jstor.org/stable/458789>. Stuart Levine and Susan F. Levine believe that the name should sound like “fall,” a bad omen for the protagonist’s lunar adventure. *The Short Fiction of Edgar Allan Poe*, eds. Stuart Levine and Susan F. Levine (Indianapolis, IN: Bobbs-Merrill, 1976), 613.

2. Harold Beaver, in his commentary on the tale in *The Science Fiction of Edgar Allan Poe*, maintains that the messenger is Pfaall’s “*alter ego*, or lunar double” (Commentary 345n7). David Ketterer interprets the lunar messenger as Pfaall’s “diminutive double.” “Poe’s Usage of the Hoax and the Unity of ‘Hans Phaall,’” *Criticism* 13, no. 4 (1971): 384, <http://www.jstor.org/stable/23098540>. Beaver’s and Ketterer’s claims, although intriguing, need more elaboration or evidence.

3. In the letter, the college becomes “*the States College of Astronomers*” (P 1:390). Burton R. Pollin points out in his “Notes and Comments” that Poe, “[p]erhaps carelessly” (P 1:462n8A), presents two different names for the institute, but this inconsistency matches the joking tone of the tale.

missing for five years, together with his three creditors. Someone even speculates that “some bones which were thought to be human,” found in a remote part of the city, indicate the “foul murder” of the unfortunate four (P 1:389).

The tale then presents Hans Pfaall’s letter in full, revealing it to be an account of his nineteen-day balloon voyage to the moon, launched on the April Fool’s Day five years earlier. Pfaall’s ascension to the moon inflicts him with bulged eyes, bleeding nose and ears, upset stomach, dangled ankle, and loss of breath. It also results in the death of animal companions and human creditors, the latter of which happens in the explosion when the balloon takes off. The graphic details of Pfaall’s daring departure from earth, however, also accompany the depiction of Pfaall’s appearance and performance as a self-educated astronomer, still amateurish, but surprisingly resourceful. The letter documents meticulously how Pfaall encounters and overcomes diverse challenges during his voyage: how he calculates, experiments, invents, designs, builds, maneuvers, thinks quickly, decides quickly, exercises reasonable doubt, and liberates himself from earthly customs and morality. Pfaall’s account is one full of pain and imminent peril, but it is also a record full of the thrill of engineering a successful escape from one’s earthly financial, familial responsibilities and ties. At the end of this sensational letter, Pfaall offers to disclose more on his post-landing lunar experience, in exchange for a pardon for the murder of his three creditors right before his voyage. The letter ends, but the story continues. The astronomical authority of the city denies Pfaall’s request for pardon. They reason that now that Pfaall’s messenger, the odd-looking aeronaut, has already left Earth, no one can

deliver the pardon to Pfaall because “no one but a man of the moon would undertake a voyage to so vast a distance” (P 1:427). The story then continues to present the “rumors and speculations” fermenting and circling among the city’s public, who are eager to ridicule, discredit, and dismiss Pfaall’s account as “nothing better than a hoax” (P 1:427).

Poe’s framed tale provokes a curious sensation in its reader because it blends jests with bountiful astronomical details while weaving logic and order with the wildest twists of plot. However, those who consider Poe’s intent and design would find Poe’s “Note” even more intriguing. The “Note” was written several years later than the 1835 tale and appended to the end of the 1840 and 1850 republications of the tale. In this endnote, Poe compares his own tale with Richard Adams Locke’s worldwide famous Moon Hoax, published only two months after Poe’s tale in 1835 in the New York *Sun*. It is worth noting that while Locke’s moon story provoked a sensation in 1835 among readers, many of them believed it to be a true report of Sir John Herschel’s telescopic discoveries, as the title of the story claimed.⁴ Poe’s tale of a moon voyage, however, generated very limited response. Burton R. Pollin observes that Poe felt “rueful” and “invidious about” his loss and Locke’s success (P 1:494n80A). For several years, Poe kept claiming, from time to

4. The title of Locke’s mesmerizing narrative is the *Great Astronomical Discoveries Lately Made by Sir John Herschel, L.L.D. F.R.S. &c. at the Cape of Good Hope [from Supplement to the Edinburgh Journal of Science]*. In the name of Dr. Andrew Grant, an alleged assistant of Sir John Herschel at the latter’s observatory at the Cape of Good Hope, Locke produced six installments of reports of new lunar findings, including plants, animals, seas, and most excitingly, “man-bats.” The narrative was later termed the Great Moon Hoax, as it was an exemplary work of deception. Also see Matthew Goodman’s book, *The Sun and the Moon: the Remarkable True Account of Hoaxers, Showmen, Dueling Journalists, and Lunar Man-Bats in Nineteenth-Century New York* (2008), for a compelling account of the origin, motives, design, and reception of Locke’s moon story, as well as the popular culture production that ensued. Goodman’s book also provides a vivid picture of the operation of nineteenth-century American penny newspapers, the public’s fascination by spectacles and showmanship, and the scientific discoveries and inventions that provided the perfect material for brewing popular imagination.

time, that Locke had taken the idea of telescopic discoveries from him, until he finally acknowledged in the “Note” attached to the revised “Hans Pfaall” that “there is but little similarity between” the two pieces of fiction (P 1:428).⁵

Despite withdrawing his claim of Locke’s plagiarism, Poe declares in the “Note” that both accounts “have the character of *hoaxes*” and refers immediately to them as “hoaxes [...] on the same subject, the moon” (P 1:428).⁶ Poe then poses as the superior hoaxer of the two, criticizing Locke’s lack of “attention to facts and to general analogy” (P 1:428) when creating his story. More importantly, Poe laments that “the gross ignorance” (P 1:428) of Locke’s followers leads them to fall for his hoax so easily, mistaking fiction for astronomy. Allegedly out of pity and amusement, Poe begins to expose the unscientific portions of Locke’s moon account. Perhaps a little too conveniently, however, Poe neglects to mention that his criticism of Locke relies heavily on Thomas Dick’s *Celestial Scenery; Or, the Wonders of the Planetary System Displayed*

5. Poe’s response to the hoax of the century is quite interesting. In less than two weeks after the publication of Locke’s moon account, Poe asked John. P. Kennedy, in a letter dated Sept. 11, 1835, if Kennedy did not “think it [Locke’s hoax] altogether suggested by *Hans Phaal* [sic]” (O 1:108). Poe continued to relate that he had already thought of “the idea of *Telescopic* discoveries,” but “abandoned” it (O 1:108). Poe then commented that many details in Locke’s account proved that “the idea was stolen from” Poe himself (O 1:108). Poe’s insistence on Locke’s plagiarism and Poe’s spirited commentary on the issue would surface sporadically during the next few years before he finally denied Locke’s debt to his “Hans Pfaall.”

6. Poe again identifies the two accounts as “*hoaxes*” in his entry on Locke in “The Literati of New York City” (ER 1216). Some critics have rejected Poe’s categorization of his tale as a hoax. For instance, Pollin comments that Poe’s labeling “can be disallowed,” as the scientific details in Pfaall’s tale are undermined by the jesting tone of “the introductory and concluding sections of” the tale (P 1:494n80A). Pollin further argues that Poe regretted his own failure and Locke’s success in “capitalizing” on the public’s obsession with spectacles, using the appropriate tone and medium (P 1:494n80A).

(1838).⁷ Besides exposing the scientific weaknesses of Locke, Poe's "Note" also discusses, to various degrees, some of the earlier lunar voyage fictions, such as the French version of Francis Godwin's *The Man in the Moone* (1638), Cyrano de Bergerac's *The Comical History of the States and Empires of the World of the Moon* (1687), and George Tucker's *A Voyage to the Moon* (1827).⁸ Poe maintains that the "aim" of these earlier lunar fictions is "always satirical," comparing "Lunarian customs" to "ours" (P 1:433). Because of their social, political nature, these accounts have paid little attention to the "*plausibility* in the details of the voyage itself" (P 1:433). In contrast, the innovation of "Hans Pfaall" lies in its "attempt at *verisimilitude*," creating a literary narrative that reflects accurately "scientific principles" (P 1:433).

There is very little recent criticism on "Hans Pfaall." Among the earlier treatments of the tale, a considerable amount focuses on Poe's sources for the tale. Indeed, Pollin's introduction to "Hans Pfaall" offers the most detailed and comprehensive discussion of Poe's sources (P 1:369-72). Margaret Alterton observes Poe's use of the *Philosophical Transactions of the Royal Society of London*.⁹ Harold Beaver and Meredith Neill Posey

7. Thomas Dick, *Celestial Scenery; Or, the Wonders of the Planetary System Displayed* (New York: Harper, 1838), <https://archive.org/details/celestialsenery00dick>. For a detailed discussion on Poe's use of *Celestial Scenery*, see Pollin's "Notes and Comments" (P 1:81A-91A).

8. Francis Godwin, *The Man in the Moone; or, A Discourse of a Voyage Thither* (London: John Norton, 1638), http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:image:184047; Cyrano de Bergerac, *The Comical History of the States and Empires of the World of the Moon*, trans. A. Lovell (London: Henry Rhodes, 1687), http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_id=xri:eebo:image:57769:4; George Tucker, *A Voyage to the Moon: With Some Account of the Manners and Customs, Science and Philosophy, of the People of Morosofia, and Other Lunarians* (New York: Elam Bliss, 1827), <https://archive.org/details/voyagetomoonwith00tuck>.

9. Margaret Alterton, *Origins of Poe's Critical Theory* (Iowa City: University of Iowa Press, 1925), 134.

discuss Poe's reliance on Sir John Herschel's *A Treatise on Astronomy*.¹⁰ Killis Campbell examines Poe's use of David Brewster's *Letters on Natural Magic*.¹¹ Selma B. Brody identifies Sir Humphrey Davy as Poe's source of the use of "azote," instead of the more popular term, nitrogen.¹² Posey and J. O. Bailey disagree with each other on the issue of one of Poe's sources: While Posey believes that Poe relies on Robley Dunglison's review of George Tucker's *A Voyage to the Moon*, Bailey maintains that Poe uses Tucker's novel, not Dunglison's review.¹³ Ronald Sterne Wilkinson continues the discussion of Posey and Bailey but contends that Poe's tale owes "a greater debt to" Tucker's fiction than Poe acknowledges or than previous critics demonstrate.¹⁴ Wilkinson states that Poe's tale is a satire of Tucker's novel, "the unscientific, moralizing work detested."¹⁵

There is also considerable attention to the tale's setting, tone, production, and goal as a hoax. In his 1957 article on Poe's story, Edmund Reiss proposes that the "jocular" frames to the tale suggest that the tale is "nothing but an April Fool's joke."¹⁶ In contrast, David Ketterer cautions readers against understanding Hans Pfaall's account as "an

10. Beaver, commentary on *The Science Fiction of Edgar Allan Poe*, 341; Meredith Neill Posey, "Notes on Poe's Hans Pfaall," *Modern Language Notes* 45, no. 8 (1930): 501-7, <http://www.jstor.org/stable/2913163>.

11. Killis Campbell, "Poe's Reading," *Studies in English* 5 (1925): 166-96, <http://www.jstor.org/stable/20779364>.

12. Selma B. Brody, "The Source and Significance of Poe's Use of Azote in 'Hans Pfaall,'" *Science Fiction Studies* 17, no. 1 (1990): 60-63, <http://www.jstor.org/stable/4239972>.

13. Posey, "Notes," 501-7; Bailey, "Sources," 513-35.

14. Ronald Sterne Wilkinson, "Poe's Hans Pfaall Reconsidered," *Notes & Queries* 13, no. 9 (1966): 334, doi:10.1093/nq/13.9.333.

15. *Ibid.*, 336.

16. Edmund Reiss, "The Comic Setting of 'Hans Pfaall,'" *American Literature* 29, no. 3 (1957): 309, <http://www.jstor.org/stable/2922466>.

ordinary hoax” because it would have defeated Poe’s satirical purpose by proving that the “narrow-minded” residents of Rotterdam are correct.¹⁷ In addition, Ketterer argues for “an unexpected basic unity” of the tone of the tale, despite that it appears transitioning from humorous and satirical to seriously scientific.¹⁸

More recently, Marcy J. Dinius investigates the production of Poe’s alleged hoax and Richard Adams Locke’s Great Moon Hoax. Dinius reads the hoaxes as a strategy employed by masterful literary writers to compete with “science’s rising cultural value,” by taking advantage of the public’s scientific enthusiasm and the shared publishing space of science and literature in antebellum America.¹⁹ Both Lynda Walsh and Gavin Jones consider the goal or function of the hoax. Instead of reading Poe’s hoax as a deceitful act upon other texts, Lynda Walsh redefines Poe’s hoax as “a public exchange” with his readers on the issue of science and technology.²⁰ Walsh argues that Poe’s tale goes beyond ridiculing the gullible, functioning rather as a rhetorical strategy for community-building. Poe is “seeking communion” among readers who can see through the hoax and enjoy the tale from the perspective of a builder or a mechanic.²¹ If Walsh interprets Poe’s hoax as a gesture of communicating and gathering, Gavin Jones reads Poe’s hoax as a

17. Ketterer, “Poe’s Usage of the Hoax,” 380, 379.

18. *Ibid.*, 378.

19. Marcy J. Dinius, “Poe’s Moon Shot: ‘Hans Phaall’ and the Art and Science of Antebellum Print Culture,” *Poe Studies* 37, no. 1-2 (2004): 6. doi: 10.1353/poe.2004.0011.

20. Lynda Walsh, “What is a Hoax? Redefining Poe’s *Jeux d’Esprit* and His Relationship to His Readership,” *Text, Practice, Performance* 4 (2002): 115.

21. *Ibid.*, 118.

decoy that challenges readers' notion of "credibility."²² G. Jones contends that Poe's tale is "not really a hoax at all"²³ because all his hoaxes are "*failed* examples of the genre" that works "not to dope us" but to present readers with "a flawed system of credibility."²⁴

While these discussions above offer valuable insights, few consider the long endnote of the tale, what can further illuminate our understanding of Poe's epistemological concerns. Among the few critics who examine the endnote, Pollin, in his "Notes and Commentary," provides an extensive study of Poe's endnote (P 1:492-503).²⁵ In addition, Marjorie Hope Nicolson, in the epilogue of her studies of imaginary voyages to the moon in the seventeenth and eighteenth century, regrets that Poe's tale fails to develop the potential that could have rendered it "one of the great satiric classics of our genre."²⁶ Nicolson further refutes Poe's claim of originality and scientific accuracy made in the endnote and argues that Poe exceeds his predecessors only by painting a more realistic picture of "the effect of altitude upon" an aeronaut.²⁷

In contrast, Maurice J. Bennett expresses, over three decades later, greater acknowledgement of Poe's effort and reads Poe's "Note" as "a mini-essay on the moon-

22. Gavin Jones, "Poor Poe: On the Literature of Revulsion," *American Literary History* 23, no. 1 (2011): 10, doi:10.1093/alh/ajq067.

23. *Ibid.*, 7.

24. *Ibid.*, 10.

25. Pollin's main focus includes Poe's curious attitude toward the success of Locke's Moon Hoax and Poe's unacknowledged reliance on Thomas Dick's *Celestial Scenery* when refuting Locke as a hoax master. In addition, Pollin discusses Poe's engagement with the tradition of lunar voyage fiction, represented by the French version of Francis Godwin's *The Man in the Moone*, George Tucker's *Voyage to the Moon*, and Cyrano de Bergerac's *The Comical History of the States and Empires of the World of the Moon*.

26. Marjorie Hope Nicolson, *Voyages to the Moon* (New York: Macmillan, 1948), 239.

27. *Ibid.*, 240.

voyage genre.”²⁸ Bennett discusses Poe’s lunar tale in relation to the literary tradition of lunar speculation. The discussion includes lunar narratives not only acknowledged by Poe in the “Note” as predecessors to his tale but also texts whose tradition and themes influence Poe. The authors considered by Bennett include Plutarch, Lucian, Kepler, Francis Godwin, John Wilkins, Cyrano de Bergerac, and George Tucker. It is worth noting that Bennett also challenges Poe’s alleged originality of his tale. Bennett contends that Poe’s novelty lies not in his scientific verisimilitude, but rather in Hans Pfaall’s “unusual motivation and objective,” namely escaping earth “to gratify his imagination and to relieve him of social responsibility.”²⁹ Poe’s moon is not a symbolic counterpart of the earth, but it continues in the tradition of “Romantic landscape,” in which imagination transcends everything else.³⁰ Bennett also states that for Poe, science and technology are “indispensable” when approaching cosmic truth and understanding humans’ place in the universe.³¹

Instead of using the “Note” to assess Poe’s claimed originality in the tradition that influences the tale (as does Bennett), I argue that Hans Pfaall’s letter parallels with Poe’s “Note” because they both revive and reinvent the identity of the writer and his writing. These parallels illustrate some kind of epistemological impossibility observed by Poe: no

28. Maurice J. Bennet, “Edgar Allan Poe and the Literary Tradition of Lunar Speculation (Edgar Allan Poe et la tradition littéraire de speculation selenite),” *Science Fiction Studies* 10, no. 2 (1983): 137, <http://www.jstor.org/stable/4239545>.

29. *Ibid.*, 143.

30. *Ibid.*

31. Bennett, “Edgar Allan Poe,” 144.

matter the appearance of verisimilitude, plausibility, or credibility, knowledge is a spectacle and the act of knowing is intertwined with truth and fiction.

1. Hans Pfaall's Self-Revival and Self-Reinvention

In his letter, Pfaall explains to the audience the motives of his daring voyage. As the city grows more and more obsessed with politics, it produces more and more newspapers. As a result, the residents begin to use newspapers when “a fire wanted fanning” (P 1:391) instead of calling on Pfaall the bellows mender. Pfaall is thus driven out of business and plunged into debt. He feels increasingly depressed and even suicidal as his life is filled with nothing but poverty, despair, and the three pestering creditors. One day, however, he finds a glimpse of hope in an astronomical treatise he happens to read. Ambition and passion are ignited when Pfaall decides to find a new life by flying to the moon: “I determined to depart, yet live — to leave the world, yet continue to exist — in short, to drop enigmas, I resolved, let what would ensue, to force a passage, if I could, *to the moon*” (P 1:399). In fact, not only does Pfaall “drop enigmas,” i.e. create mysteries around his existence, when he leaves for the moon, but he also literally drops an enigma, as in a puzzling, obscure (written) speech, through his alleged lunar messenger five years later. If the earlier Pfaall, who resolves to vanish from the earth mysteriously, is but an out-of-business bellows mender, spurred into bold actions by debt and despair, the current Pfaall who captures the whole town's attention with “a huge letter” (P 1:390) thrown down by a strange-looking messenger flying a “fantastic machine” (P 1:388) poses as a successful voyager and ambitious negotiator.

Therefore, Pfaall's letter can be read as an act of self-reinvention and self-revival. The letter fallen from the sky announces Pfaall's returned, though mediated, presence, at the very heart of the same town that used to afford him little living space. In a way, Pfaall has returned from the dead and the forgotten, destroying the rumor that he has fallen victim to a "foul murder" (P 1:389). His letter offers a sensational account of how his abject, suicidal past is transformed, via science, into a confident present, preparing for a profitable future. The former bellows mender now pleads eloquently for prospective collaboration with the astronomical and administrative authorities of the town.

For today's reader, balloon flights to the moon are the stuff of pure fantasy. Even readers in Poe's time would have treated Poe's tale as an artful literary creation, fused with vivid, believable scientific details.³² However, Pfaall's "narrative of success," as labeled by Gavin Jones, proves anything but straightforward for its readers in the fictional world of Rotterdam.³³ By examining how Pfaall's account is received by Rotterdam, one might perceive that Poe's tale plays an important role in illuminating the complex distinction between truth and falsehood as well as the unsure nature of the source of knowledge and the act of knowing.

If Pfaall's account testifies for an astronomical feat, or even the possibility of one, it does not provoke any real scientific interest in the scientific authority. The two immediate readers, the addressees of the letter, Rubadub and Von Underduk, are

32. For a selection of the contemporary reviews, many of which are favorable, see P 1:372-75.

33. G. Jones, "Poor Poe," 8.

impressed tremendously by the letter and decide instantly, upon finishing reading, to grant the requested pardon. The tale presents the two convinced readers in a jestingly dramatic light: Rubadub “dropped his pipe upon the ground in the extremity of his surprise”; Von Underduk puts away both “his spectacles” and “his dignity,” spinning “three times upon his heel in the quintessence of astonishment and admiration” (P 1:426). Both concur that “[t]here was no doubt about the matter—the pardon should be obtained” (P 1:426). Pfaall’s letter compelled the two astronomical experts mentally and physically. However, these mental and physical movements reveal to stay on a personal level only. The pardon is put to a halt and the entire matter “an end” when the two experts realize that since Pfaall’s lunar messenger has already left earth, “the pardon would be of little use, as no one but a man of the moon would undertake a voyage to so vast a distance” (P 1:427). The astronomical authority eventually rejects Pfaall’s alleged discoveries and documents on the ground of practicality. While it might be true that no earthly resident “would” (P 1:427) travel to the moon to deliver Pfaall’s pardon at the moment, there is no further discussion on whether it is possible to reach the moon. The astronomical community betrays little consideration in putting Pfaall’s reported theory and method to the test, even after the professors have announced that there was “no doubt about the matter” (P 1:426). Pfaall’s account has become a legal matter and a failed business proposal only. In a word, Pfaall’s account, despite its convincing appearance and emotional impact, wields little scientific influence. Pfaall’s moon and moon voyage remain a sensational report.

If the astronomical authority believes Pfaall but fails to designate his account with true scientific value, the public of Rotterdam, in contrast, shows a clumsy yet eager attempt to question the credibility of Pfaall and Pfaall's account. "[R]umors and speculations" (P 1:427) emerge after the authority dismisses the whole matter and publishes the letter. For instance, someone reports that an earless "little dwarf and bottle conjurer" from a nearby town "has been missing for several days" (P 1:427). Also, it is observed that the "very dirty" newspapers covering the balloon are not lunar at all, but are "printed in Rotterdam" (P 1:427). Perhaps, most astonishingly, Pfaall and his three creditors allegedly had been seen a few days ago, "having just returned, with money in their pockets, from a trip beyond the sea" (P 1:427). Wilkinson reads these speculations as evidence of the falsity of Pfaall's voyage: "Poe hints at the end of the tale that Pfaall did not go to the moon at all; the reader is led to believe that the voyage was a deception and fabrication."³⁴ I agree with Dinius, however, that these reports are "nothing more than conjecture."³⁵ Nothing truly substantial has been presented yet to discredit Pfaall fundamentally.

In addition, the claimed sighting of Pfaall and his companions is worthy of further consideration. First, there is no guarantee that the report is true. Second, even if the report is true, it poses more questions. Who is "Hans Pfaall" the letter writer? What has motivated him or her to produce an astronomical account in Pfaall the former bellows

34. Wilkinson, "Poe's Hans Pfaall Reconsidered," 336.

35. Dinius, "Poe's Moon Shot," 5.

mender's name? What kind of tale might the "real" Pfaall tell about his sea voyage, if he chooses to tell a tale? Might not he be just like Arthur Gordon Pym, the protagonist and chief narrator of Poe's sea voyage novella published a few years later, whose credibility is entangled in the enigmas dropped around his own survival and authorship? Should Rotterdam's public believe Pfaall regarding the sea voyager then? In a word, believing in the sighting of Pfaall reveals even more problems and doubts than disbelieving in it.

To some degree, the public is justified in wanting and endeavoring to dismantle Pfaall's account, and not just because the account has been dismissed by the authority. Pfaall's written re-entrance into the city abounds in enigmas, or, conflicting forces: amateur vs. expert, living vs. dead, obscurity vs. spectacle, failure vs. success, plausibility vs. unthinkability, potential contributor to scientific discoveries but also a confessed murderer, a story of personal salvation but also a testimony of shunning one's financial and familial responsibilities, as well as an account of valor but also a narrative of despair and escape. One representative moment of this narrative tension and uncertainty appears when Pfaall intimates how he manages deftly to acquire funding for his secret voyage: "Matters being thus arranged, I contrived, by the aid of my wife, and with the greatest secrecy and caution, to dispose of what property I had remaining, and to borrow, in small sums, under various pretences, and without giving any attention (I am ashamed to say) to my future means of repayment, no inconsiderable quantity of ready money" (P 1:393). A reader might wonder how plausible it is, despite the professed exertion of "secrecy and caution" (P 1:393), for Pfaall to borrow a considerable sum of money when he is already

out of business and pestered by three creditors. In addition, the reader can almost hear in Pfaall's narration the same combination of self-congratulation, insistence on order and precision, and a trace of madness, culminated in the narrator of "The Tell-Tale Heart" (1843).³⁶ In a word, Pfaall's narrative, despite its vesture of success and confidence, betrays a glimpse of instability. As a result, it is reasonable for a reader to feel unsure about the irreconcilable facets of an alleged astronaut and his report. It is also noteworthy that it is the public, not the astronomical authority, who reveal more awareness of the issue of credibility.

While Pfaall and his account might be questionable, they do not necessarily dismantle the possible truth and scientific value of the account. Although the frame of the story carries a tone of exaggeration and merry-making, Pfaall's letter, in fact, is filled with astronomical passages borrowed from or alluding to Sir John Herschel's *A Treatise on Astronomy* (1833). David Ketterer observes that as the tale proceeds from the opening frame to the letter, "the hoax gradually assumes the force of a genuine scientific treatise."³⁷ Ketterer claims further that "the reader is hoaxed if he believes the astronomical information is a hoax."³⁸ The incorporation of astronomical information complicates the status of Pfaall's letter and suggests that the account depicts a scientific possibility, instead of a mere ruse that can be discarded readily.

36. M 3:789-99.

37. Ketterer, "Poe's Usage of the Hoax," 379.

38. *Ibid.*, 382.

In addition, Pfaall's scientific interest and curiosity seem more intense and genuine than even the astronomical experts. The astronomical professors' feet and minds are very much tied to earth, showing little enthusiasm in exploring the moon, a place of wonders and interests promised by Pfaall. In contrast, besides marveling at the beauty of the "unruffled ocean" (P 1:407), Pfaall makes the best use of the ascending voyage and learns that the convex surface of the earth will not be seen until the balloon reaches a sufficient altitude. Before that, only the appearance of "concavity" (P 1:408) will be observed.³⁹ Pfaall also shows an enormous interest in the North Pole. He feels that his "curiosity was greatly excited" at the prospect of passing "directly above the Pole itself" (P 1:416). Pfaall experiences "great joy" (P 1:417) when the balloon flies right above that "rim of ice" (P 1:417) of the North Pole region. Although the "vast" distance prevents him from observing "with accuracy" (P 1:417), Pfaall still intimates that "what could be seen was of a nature singular and exciting" (P 1:418). He reports a "flattened" (P 1:418) surface near the Pole. The surface becomes "*not a little concave*" around the Pole and a "circular" hollow at the place of the Pole (P 1:418). The image of an unfathomable hollow at the Pole suggests that Pfaall (and Poe) is familiar with John Cleves Symmes's

39. Through Poe, Pfaall attempts to explain why only a concave surface can be seen at a lower altitude, but Pollin points out that the experience might not be true in reality (P 1:478n37A). Despite Poe's error, Pfaall is still presented as a careful student of science.

Hollow Earth theory.⁴⁰ In a word, viewed from Pfaall's eye, the ascending journey is one filled with genuine scientific interest.

The astronomical experts, won over quickly by the narrative, are at best lukewarm about expanding their astronomical realm. The public, though less gullible, also reveals little interest in the science and appears indifferent to what thrills and delights Pfaall the most—the latter's liberated imagination and the ensuing beauty that he witnesses. As the balloon climbs higher and as Pfaall manages to sooth his pain of respiration by condensing air into his chamber, Pfaall begins to enjoy a sense of relief and freedom from all kinds of physical and mental burdens inflicting him in Rotterdam. Imagination, aided by science, starts soaring and picturing a view on the moon:

Imagination, feeling herself for once unshackled, roamed at will among the ever-changing wonders of a shadowy and unstable land. Now there were hoary and time-honored forests, and craggy precipices, and waterfalls tumbling with a loud noise into abysses without a bottom. Then I came suddenly into still noonday solitudes, where no wind of heaven ever intruded, and where vast meadows of poppies, and slender, lily-looking flowers spread themselves out a weary distance, all silent and motionless for ever. Then again I journeyed far down away into

40. Darryl Jones, "Arthur Gordon Pym, the Polar Imaginary, and the Hollow Earth," *Edgar Allan Poe Review* 11, no. 1 (2010): 61, <http://www.jstor.org/stable/41506389>. In 1818, John Cleves Symmes announced in all earnestness that the Earth was formed by concentric spheres and that there were hollows at the Poles. In the early 1820s, Symmes began a nationwide lecture tour to promote his Hollow Earth Theory, joined by his enthusiastic follower, Jeremiah N. Reynolds, later the originator and lobbyist for the United States Exploring Expedition 1838-1842. For more details on Symmes and the awareness of his theory by other nineteenth-century contemporaries, see D. Jones 59-61.

Poe's knowledge of the Hollow Earth Theory and his fascination with the mystery of the South Pole are reflected in "MS. Found in a Bottle" (1833), "The Unparalleled Adventure of One Hans Pfaall" (1835), and *The Narrative of Arthur Gordon Pym* (1838) (M 2: 148n26).

another country where it was all one dim and vague lake, with a boundary-line of clouds. But fancies such as these were not the sole possessors of my brain.

Horrors of a nature most stern and most appalling would too frequently obtrude themselves upon my mind, and shake the innermost depths of my soul with the bare supposition of their possibility. (P 1:412-13)

The moon voyage liberates and inspires Pfaall mentally to visit a place that alternates between sound and silence, old and new, color and shadow, as well as an awareness of the existence but also the termination of the self. Simultaneously idyllic and dark, the imagined view epitomizes a concept of Beauty that is quintessentially Poe. Poe honors Beauty as the meaning of a creative existence. It is true that Pfaall's audience does not know and will never know whether Pfaall's account is true. However, the audience, especially the public, appears little impressed by the possibility of seeing Beauty via imagination. They see little Beauty in the account, and by extension, they will not acknowledge the Truth in it. That is why they only see falsehood and produce meaningless evidence to prove what they already believe. Truth is an uncertain achievement, but Poe's tale seems to suggest that we should entertain at least the possibility that Beauty and imagination might be the signs of Truth. We should not dismiss the liberating effect of science on human condition, minds, and imagination.

It is undeniable that Poe's tale depicts a dubious moon voyager and writer, but this alleged explorer seems to harbor more scientific enthusiasm than the experts and more vision for Beauty than the public. Beauty and imagination abound in Pfaall's alleged

scientific voyage, which enticingly depicts the possibility of Truth. However, the audience in Rotterdam rejects this possibility. The authority banishes Pfaall forever to the moon, while the public transforms Pfaall's account of cosmic exploration into an earthly trick. Dinius claims that Pfaall's audience resorts to the "dull realities" of science and quells "a writer's ambitions."⁴¹ I would add, however, that the existence of Pfaall as a writer is expelled by the two groups of audience. The officials' failure in delivering the pardon prevents Pfaall's any further presence on earth, especially his writing presence. While the authority rejects Pfaall's earthly identity, the public's rumors ground Pfaall firmly on earth, but as the "drunken villain" (P 1:427), someone who is incapable of producing a sophisticated letter on lunar voyage, either in the past or in the future. The audience has turned Pfaall into the later Arthur Gordon Pym, whose relationship to his writing becomes more and more separated as the narrative proceeds.

By depicting a community that fails to evaluate the possible validity and scientific value of an unconventional, alleged, astronomical narrative, the meaning of Poe's tale exceeds that of exposing a hoax, the gullibility of the authority, or the meaninglessness of public opinion. Instead, it illuminates the innate uncertainty of the act of knowing, as the messenger of truth, or the source of knowledge, reveals to be such a mixture of conflicting identities, or a mixture of truth and fabrication. In other words, Truth is mediated through some conflicted agent, in this case, such a controversial figure of Pfaall. In addition, the tale also suggests that although it is almost impossible to ascertain

41. Dinius, "Poe's Moon Shot," 5.

Truth, at least we should entertain the possibility that Beauty and imagination might be signs of it.

2. Poe's Self-Revival and Self-Reinvention

The story of enigma dropping does not end with the public's final rejection of Pfaall. Through his endnote, Poe continues to drop enigmas about the origin, sources, and context of the tale of "The Unparalleled Adventure of One Hans Pfaall." In fact, Poe's "Note," like Pfaall's letter, is an act of self-revival and self-reinvention. As Pfaall brings himself back into the heart of Rotterdam through an account of the "unparalleled" moon voyage, Poe brings his tale back from the past and champions it as an epitome of scientific strength and literary verisimilitude. The "Note" depicts the reported feat of the earlier tale: how it is superior in originality, "*verisimilitude*," and "*plausibility*" (P 1:433) to other lunar voyage narratives, especially Locke's 1835 Moon Hoax. The "Note," written in 1839, creates the false impression that it was an immediate response to Locke's 1835 popular hit (P 1:493n80A). As a result, Poe poses himself as a superior hoaxer who can detect and dissect other hoaxers' weaknesses. More importantly, via the "Note," Poe transports himself back to the time when he failed while Locke succeeded in choosing the right tone and method to craft a narrative that captured the public's imagination. Because of the "Note," this time Poe was not the less popular hoaxer who had to admit defeat; rather, he enjoyed the glory of exposing the hoax master in front of a large crowd of ridiculously ignorant supporters.

Of course, Poe's failure to reference Thomas Dick's *Celestial Scenery* in his attack on Locke's inferior knowledge of astronomy serves to bolster Poe's astronomical, intellectual strength. For instance, Poe refutes Locke's alleged lunar details observed through the telescope. Based on the vast difference between the earth-moon distance and the magnifying power of the telescope, Poe argues that it is impossible to see flowers or animals in detail, let alone "the color and the shape of the eyes of small birds" ("Hans Pfaall" P 1:428) described in Locke's Moon Hoax:

The moon's distance from the earth is, in round numbers, 240,000 miles. If we desire to ascertain how near, apparently, a lens would bring the satellite, (or any distant object,) we, of course, have but to divide the distance by the magnifying, or more strictly, by the space-penetrating power of the glass. Mr. L. makes his lens have a power of 42,000 times. By this divide 240,000 (the moon's real distance,) and we have five miles and five-sevenths, as the apparent distance. No animal at all could be seen so far; much less the minute points particularized in the story. (P 1:428)

Besides employing his knowledge of mathematics and optics to expose Locke as a fraud, Poe also beckons his reader to use common sense to banish any further doubt. Poe reminds the reader that had Locke's observer been "*real*," he would have been amazed by the "remarkable *situation*" of the lunar animals, everyone of which "would appear to be walking, with heels up and head down, in the manner of flies on a ceiling" (P 1:429). As a result, the reporter should have directed the reader's attention to this unusual sight first,

rather than dwelling on the details of the “entire bodies” (P 1:429) of the animals, contrary to how a reasonable observer would act. In addition, the views of the full bodies of the animals should not have been available, since from the enormous distance the observer “could have seen only the diameter of their heads!” (P 1:429). In short, Poe invokes the reader’s reason and logic to see through the elaborate appearance of Locke’s account.

Readers admiring Poe’s rich astronomical knowledge and keen insight need to be reminded that Poe quotes from and summarizes Thomas Dick’s *Celestial Scenery* quite liberally, yet without naming the source. For instance, we can find the same earth-moon distance offered by Poe on page 253 in Dick’s astronomical, theological work (P 1:494n82A). Also, Poe’s argument against observing lunar creatures in detail proves to be a close paraphrase of Dick’s criticism on Locke’s Moon Hoax in the long footnote on pages 272-273 in the *Celestial Scenery*, although Poe omits Dick’s theological advice to the deviant Locke (P 1:494n82A). Similarly, when he exclaims that the observer can only see the general shape of lunar objects, Poe derives his comment from Dick’s revelation that “a *bird’s-eye view*” should be the only available result (P 1:496n88A). In a word, in his endnote to “Hans Pfaall,” Poe unmasks Locke’s creation while masking his own resource.

In addition to relying on an unnamed source to bolster his astronomical credibility, Poe also invokes a long literary tradition of lunar voyage by discussing

previous fictions on the topic.⁴² However, as Bennett insightfully points out, the tale's appearance of responding to previous fictions is only "an afterthought."⁴³ When Poe designed the tale in 1835, his main sources were "Leaves from an Aeronaut," an 1835 article published in the *Knickerbocker Magazine* (P 1:370) and George Tucker's lunar travel fiction, *A Voyage to the Moon*.⁴⁴ In other words, although Poe did become more learned on the topics of astronomy and lunar voyage when he wrote the "Note," he was not engaging or contemplating the tradition in 1835. In a word, the "Note" refashions the origin of Poe's tale and it amplifies the ambition of the tale by situating it in a longer, richer tradition.

If the truth of Pfaall's astronomical accomplishment is woven with riddles and ambivalence, the truth of Poe's statements regarding "The Unparalleled Adventure of One Hans Pfaall" is similarly mixed with fiction, cloaking, and reinventing the original intention and design of the tale. Therefore, both Pfaall's account and Poe's "Note" provide a rich mine for understanding Poe's epistemological concerns. In the case of Pfaall, knowledge is produced under unthinkable, complex, and conflicting circumstances: on earth or on moon, for profit or for science, dead or alive, truth or ruse).

42. In his endnote, Poe critiques the French version of Francis Godwin's *The Man in the Moone* (1638) for its lack of precision in representing astronomical knowledge. Poe dismisses Cyrano de Bergerac's *The Comical History of the States and Empires of the World of the Moon* (1687) as "utterly meaningless" (P 1: 432). In addition, Poe claims that "the means of the voyage" (P 1: 432) in George Tucker's *A Voyage to the Moon* (1827) relies too much on coincidence rather than science. In the concluding paragraph of the endnote, Poe argues that the shortcomings of these earlier lunar fictions, i.e. their lack of plausible, scientific method of traveling, will be addressed by his own "Hans Pfaall."

43. Bennett, "Edgar Allan Poe," 138.

44. Bailey, "Sources," 523.

Similarly, Poe's "Note" is crafted under intriguing circumstances. Pollin wonders if Poe wrote the "Note" to justify his tale of balloon traveling when the public's obsession with aeronauts and Locke's hoax already had "waned," and if Poe expanded the "Note" after reading Dick's criticism on Lock (P 1:492n80A). In his note to his 1855 translation of "Hans Pfaall," Charles Baudelaire describes Poe's act of obscuring sources in the endnote as "'pet whims'" and "'a touching spectacle'" in an intelligent, respected author like Poe; Baudelaire even claims that this is "'the American character'" of Poe.⁴⁵

Poe's "Note" leaves the reader considerable room to speculate on his intention, motivation, and mood when he composed the "Note." Although Poe might be bluffing about his scientific capability, his enthusiasm and commitment to astronomy remains evident, not unlike Pfaall's own passion for scientific discoveries. Also, both Poe and Pfaall entangle truth and fiction. So where does the truth lie for Poe, who resembles Pfaall as a complex, conflicting writer figure? How do we determine the place of Poe's tale and his "Note" in the literary tradition of lunar travel? The enigmas dropped by Pfaall and Poe indicate that writers harness considerable power in engineering and remodeling knowledge. Perhaps Truth innately cohabits with mysteries. And via questionable writers and careless, indifferent readers, Poe insinuates that we might only obtain the likeness of Truth, since nothing is verifiable.

45. Charles Baudelaire, translation of "Hans Pfaall," *Le Pays*, April 20, 1855, quoted in P 1:492n80A.

3. Conclusion

As an author and editor, Poe certainly enjoyed creating accounts that spurred his readers into wondering about the truth and falsehood of the narratives. More importantly, he drew tremendous pleasure from keeping the readers lingering on the threshold of discovery. Poe's later tale, "The Facts in the Case of M. Valdemar" (1845),⁴⁶ a physician's report of peeping into the mysterious afterlife by mesmerizing a patient at the point of death, fooled many lay readers and even professionals. In response to numerous and varied inquiries regarding whether the report was fact or fiction, Poe issued an introduction to the reprint of the story, but only to mystify it further. In his announcement, Poe, speaking as an unnamed editor, teased his readers "with pleasure," by refusing "to offer one word on the point at issue" except to "leave it to speak for itself" (M 3:1230). However, when some readers did see through the hoax, Poe dismissed them by slyly chiding or ridiculing them for even having entertained that the report might be true (M 3:1230-32). Poe's playfulness is apparent. He delights in and possesses the power of puzzling, challenging, and motivating his readers to confront the dynamics between reality and fantasy, possibility and miracle, humanity and divinity. Poe offers his readers narrative enigmas that stimulate them to venture into the unknown at all costs. Therefore, it is understandable that Poe would be upset and insistent regarding the success of the Great Moon Hoax, since Locke had assumed Poe's position, the enticer.

46. M 3:1228-44.

We can certainly look at Poe's endnote to "Hans Pfaall" as an act of Poe getting even and amplifying the astronomical credibility of the tale. We also need to, however, perceive the tale as more than a faulty product that needs an upgrade engineered by the endnote. The epistemological significance in the tale encourages readers to see imagination and Beauty as signs of Truth. Because of liberated imagination, Pfaall is able to witness sublime scenes of earth and depict beautiful sights; Pfaall has become a more diligent and passionate student of science than the astronomical authority in Rotterdam. In addition, the role of the endnote, besides reinventing Poe and Poe's tale, demonstrates the effort of a pursuer of astronomical knowledge. It might not be too unreasonable to compare Hans Pfaall to Valdemar. While both die a literal or figural death to venture into the unknown and unthinkable, neither returns. More importantly, however, although "The Facts in the Case of M. Valdemar" might be a more successful hoax than "Hans Pfaall," the search for the unknown is presented alluringly by both tales. While Valdemar's low voice from the great beyond electrifies Poe's readers, what the seemingly mad Hans Pfaall delineates also impresses readers with Beauty and imagination. This beauty and imagination need not and should not be overshadowed by the genre of the tale or the (lack of) success of the tale as a hoax. In addition, we can even compare Poe the endnote writer to Valdemar's physician. Although it is undeniable that Valdemar is a pioneer reporter of the afterlife, the physician in fact is the one—and the first—who exercises control over Valdemar the reporter and grants existence to an impossible product. If the physician is the true author of a novelty, Poe the endnote writer is also an inventor who

remakes his earlier tale in an impossible place among the stream of literary lunar accounts. Because of the endnote, the tale now responds to texts, themes, and manners to which it did not intend to respond. This act of invention stimulates readers to contemplate the role of a writer and what kind of power he or she can exert over knowledge creation.

Like Poe's other explorers and truth seekers, Pfaall never returns (he is disallowed to do so) and never imparts fully what he sees (his account is dismissed and disbelieved and his offer of further disclosure is denied). The tale of "Hans Pfaall" implies that the source of knowledge can be fundamentally against our social, moral, or scientific convention. If Poe's tale poses difficult questions regarding the nature of knowledge and the act of knowing, Poe's endnote continues to ask these questions by crafting a piece of fiction for a fictional narrative. Scientific discoveries in Poe's time engendered wonders, spectacles, and new realms of knowledge, but they also problematized people's experience with knowing. By examining the epistemological significance of Poe's "Hans Pfaall" and its equally excessive, puzzling endnote, readers might understand more about Poe's uncertainty and anxiety about knowing, but also about his creative drive brought by the problem of knowing.

CHAPTER III

**“THAT WORD OF ALL WORDS”: THE PROBLEM OF KNOWING AND
THE POWER OF WORDS IN *THE NARRATIVE OF ARTHUR GORDON PYM***

Riveted by the report that the *Jane Guy* has sailed farther than any previous explorers of the Antarctica, Arthur Gordon Pym, the protagonist and main narrator of Edgar Allan Poe's only novel, *The Narrative of Arthur Gordon Pym* (1838),¹ derides Captain Guy's plan of retreat because of the insufficient fuel and rising number of conditions of scurvy. Pym vehemently urges the Captain to press on and succeeds in his persuasion:

I warmly pressed upon him the expediency of persevering, at least for a few days longer, in the direction we were now holding. So tempting an opportunity of solving the great problem in regard to an Antarctic continent had never yet been afforded to man, and I confess that I felt myself bursting with indignation at the timid and ill-timed suggestions of our commander. I believe, indeed, that what I could not refrain from saying to him on this head had the effect of inducing him to push on. (P 1:166)

Pym's rhetoric is that of ambition and impatience, harbored by a bold adventurer who will not tolerate the idea of recoiling until having uncovered formerly unattainable mysteries.

1. P 4-363.

1. Jeremiah N. Reynolds and the Power of Words

This boldness and perseverance of Pym suggests to the reader Jeremiah N. Reynolds, the promoter of the United States South Seas Exploring Expedition (1838-1842). Originally an enthusiastic follower of John Cleves Symmes, Jr. and his Hollow Earth Theory,² Reynolds, an “articulate and charismatic speaker,”³ soon outshone the former in their joint lecture tours in 1825. During the next two years, Reynolds diverted from Symmes’s concentric spheres of the earth and hollows at the two Poles, and advocated, instead, adventures in the region of the South Pole. In 1828, Reynolds began lobbying for “the prospect of government subsidy for” an expedition into the Southern Polar region.⁴ His skillful appeal to American commercial interest quickly won him the position of government agent to gather data and contact potential participants. With the new administration of Andrew Jackson in early 1829, however, Reynolds’s effort lost its presidential support of John Quincy Adams. In addition, Senator Robert Y. Hayne, chairman of the Committee on Naval Affairs, challenged the expedition on technical and

2. In 1818, Symmes advocated that the Earth was formed by concentric spheres and that there were hollows at the Poles. In the early 1820s, Symmes began a nationwide lecture tour to promote his Hollow Earth Theory, with Reynolds initially as an enthusiastic follower and co-speaker. For more details on Symmes and the awareness of his theory by other nineteenth-century contemporaries, see Darryl Jones, “Arthur Gordon Pym, the Polar Imaginary, and the Hollow Earth,” *Edgar Allan Poe Review* 11, no. 1 (2010): 51-69, <http://www.jstor.org/stable/41506389>.

3. Nathaniel Philbrick, *Sea of Glory: America’s Voyage of Discovery; the U. S. Exploring Expedition, 1838-1842* (New York: Viking, 2003), 20.

4. Robert F. Almy, “J. N. Reynolds: A Brief Biography with Particular Reference to Poe and Symmes,” *Colophon* 2 (1937): 235.

political grounds.⁵ As a result, Reynolds's plan was forced to a halt, and the visionary did not resume his project until five years later.

Finally, April 3, 1836 saw the "climax" of Reynolds's career as the expedition initiator.⁶ With characteristic candor and good humor,⁷ Reynolds enthralled Congress with his vision of an eclipsing American national power at the South Seas and especially at the South Pole region. This time, however, Reynolds focused on science, spurring his audience with the glory of contributing to the global cistern of scientific knowledge and with the disgrace of inertia and mediocrity. In this 1836 *Address*, Reynolds champions an expedition "worthy of the nation."⁸ He contends:

It would not only be inglorious simply to follow a track pointed out by others, but it could never content a people proud of their fame and rejoicing in their strength! They would hurl to everlasting infamy the imbecile voyagers, who had only coasted where others had piloted. No; nothing but a goodly addition to the stock of present knowledge, would answer for those most moderate in their expectations. (Reynolds, *Address*, 71)

Reynolds's plan of pioneering in the realm of knowledge echoes Pym when the latter aspires to embrace the opportunity of being the first to reach the new waters at the South

5. See Philbrick, *Sea of Glory*, 24-25.

6. Almy, "J. N. Reynolds," 242.

7. William Stanton, *The Great United States Exploring Expedition of 1838-1842* (Berkeley: University of California Press, 1975), 31.

8. Jeremiah N. Reynolds, *Address on the Subject of a Surveying and Exploring Expedition to the Pacific Ocean and South Seas: Delivered in the Hall of Representatives on the Evening of April 3, 1836* (New York: Harper and Bros., 1836), 71, <http://nrs.harvard.edu/urn-3:FHCL:1463721>.

Pole region. Similarly, the reader sees Reynolds's ridicule of easily content adventurers in the indignity of Pym when Captain Guy considers giving up the opportunity of being a pioneer.

Scholars largely agree that Poe supported Reynolds and his project of expedition.⁹ The *Southern Literary Messenger* published a set of Poe's favorable reviews on Reynolds's literary projects. But the most salient one is Poe's 1837 review of Reynolds's 1836 *Address*, which praises Reynolds as "the originator, the persevering and indomitable advocate, the life, the soul of the design" (ER 1235). Poe also expresses his warm anticipation of Reynolds's "*finale*" (ER 1240), the actual account of the expedition. In addition, speaking of the recent slander against Reynolds caused by "envy and ill-will," Poe maintains that a gentleman like Reynolds needs no defense and that innovators and their causes are often accompanied by attacks: "It [the slander] is in perfect unison with the history of all similar enterprises, and of the vigorous minds which have conceived, advocated, and matured them" (ER 1241).¹⁰ Poe remained Reynolds's staunch supporter and a defender of the latter's character and career.

9. See P 307n16.1A and Almy 236-37, for example.

10. Neither Poe nor Reynolds foresaw that there would be no finale from Reynolds as he would become excluded from the project for which he advocated and labored. Temporarily, Reynolds's *Address* was so successful that about a month later it helped secure "three hundred thousand dollars" and put Reynolds as "head of the scientific corps" (Almy 242). However, the project was delayed and Reynolds gradually marginalized, in part because Mahlon Dickerson, Secretary of the Navy, harbored "personal hostility" (Philbrick 32) toward Reynolds, and in part because the Navy at the time did not see much interest or benefit in investing in a scientific expedition on this scale (See Stanton 51-62). After much turmoil and struggle, the United States South Seas Exploring Expedition, commanded by Charles Wilkes, launched in August 1838. Reynolds, however, was not included in the voyage. In his 1843 review of the official account of the findings of the expedition, Poe continues to condemn "the scandalous chicanery" (ER 1248) that mistreated Reynolds. Poe insists on naming the expedition "the Reynolds Expedition of Discovery" (ER 1248) and announces that the "honor of this triumphant Expedition belong[s]" (ER 1252) to Reynolds, not Wilkes the commander.

It is not surprising, then, for Poe to pay tribute to Reynolds when Poe created his first and only long narrative of navigation in the South Pole region. *The Narrative of Arthur Gordon Pym* was a novella fueled by both the literary market and Poe's genuine interest in the mystical Polar region. Having taken advice from the Harpers and James Kirke Paulding, a financially distressed Poe put aside the plan of publishing a collection of his short tales and instead began to work on a longer narrative, the topic and manner of which would appeal more to "the Capital Reader."¹¹ Poe chose to write a sea narrative because tales of adventures and disasters on the high seas were of great sensation at the time. Regarding the content of Poe's novel, Terence Whalen even maintains that Poe heavily relies on sea fictions and navigation accounts published already by the Harpers¹² and that "Harpers encouraged or at least condoned" this kind of borrowing because it will guarantee market success.¹³ In addition, the publication date of the novella might also reflect the consideration of the literary market. There was a year-long gap between the declared readiness for publication in May 1837 and the actual issuing of the novel in July

11. Terence Whalen, *Edgar Allan Poe and the Masses: The Political Economy of Literature in Antebellum America* (Princeton, NJ: Princeton University Press, 1999), 162. Harpers' and Paulding's suggestions are not the first marketing counsels Poe received. John P. Kennedy, Baltimore lawyer, novelist, and Poe's lifelong friend, reveals in an 1835 letter that he had "turned him [Poe] to drudging upon whatever may make money," instead of working on "bizarre tales" and tragedy (PL 149). In a letter dated February 9, 1836, Kennedy intimated to Poe that Poe's "love of the extravagant" (PL 190) might not benefit him financially. Kennedy advised that Poe compose in the genre of "the comic" (PL 190).

12. Besides the two major sources, Reynolds's *Address* and Benjamin Morrell's *A Narrative of Four Voyages*, Poe also relied on John L. Stephens's *Incidents of Travel in Egypt, Arabia Petraea and the Holy Land*, and Alexander Keith's *Evidence of the Truth of the Christian Religion* (Whalen 163). For a comprehensive list of Poe's sources, see Pollin's "Sources" for *Pym* (P 1:17-28).

13. Whalen, *Edgar Allan Poe and the Masses*, 163. For a detailed description of the publication history of Poe's *Pym*, see especially Pollin's "Introduction" section (P 1:4-16) and Whalen 161-165.

1838, one month before the sailing of the United States Exploring Expedition.¹⁴ It is possible that Harpers and Poe agreed to “tie *Pym* in with the excitement”¹⁵ and “the anticipation stirred by that massive public event.”¹⁶ In short, Poe’s *Pym*, especially its topic, genre, literary model, and the timing of the publication, reflects careful consideration of contemporary readership.

However, Poe’s novel is not simply a product of the market; it also embodies Poe’s personal knowledge of and fascination with the mystery of the Polar Regions. For instance, besides championing Reynolds, Poe’s earlier and later fiction also shows his interest in Symmes’s Hollow Earth Theory and in the notion that open sea and mild weather lie beyond the formerly impassable rim of ice at the polar region.¹⁷ Therefore, when Poe decided to write a fictitious sea narrative both to appeal to the public’s interest and to materialize his own personal enthusiasm of the topic, he employed the character and writings of Reynolds, a man whose qualities Poe applauded and whose voice ignited the most thrilling, ambitious American national project.

14. Joseph V. Ridgely, “The Growth of the Text,” P 35.

15. Ibid., P 30.

16. Johan Wijkmark, “Poe’s *Pym* and the Discourse of Antarctic Exploration,” *Edgar Allan Poe Review* 10, no. 3 (2009): 96. <http://www.jstor.org/stable/41506372>.

17. See Almy 230-32, 237-38, and D. Jones 65-66 for discussions on Poe’s imaginary Polar Regions in “The Unparalleled Adventure of One Hans Pfaall” (1835), “MS. Found in a Bottle” (1833), and “A Descent into the Maelstrom” (1841).

Poe's use of Reynolds in *Pym* is excessive,¹⁸ but the employment is not confined to Reynolds's writings. It also includes Reynolds's spirit or character. For instance, besides praising Reynolds's great "exertions and perseverance" (P 1:159) directly in the novel, Poe also infuses Captain Guy with Reynolds-like quality when the commander decides to sail to the South Pole region "boldly" (P 1:162), as is pointed out by Burton R. Pollin (P 1:311n16.1A) and Richard Kopley.¹⁹

While Poe's indebtedness to and affinity for Reynolds has been well documented, I maintain that Poe's reference to Reynolds might have gone further than what critics have observed. Apart from perseverance and courage, Reynolds has another noteworthy characteristic, the power of words. Several characters in Poe's *Pym* channel this characteristic. Reynolds's 1836 *Address* was not the sole reason that the government decided to endorse the South Seas Expedition, but the eloquence of its speaker certainly bolstered the project's credibility. When Reynolds appealed to and won over Congress, it must have given the impression that his words engendered one of the most ambitious American causes. His eloquence gave life to ideas and missions. It is very likely that Poe knew about Reynolds's mastery of speeches, since Poe probably "knew about Reynolds [...] as both the hollow-earth visionary of the 1820s and the development-oriented

18. For Poe's heavy reliance on Reynolds's 1836 *Address*, see Pollin's "Sources" section (P 1:17-28) and "Notes and Commentary" section on the latter half of the novel (P 1:281-363). However, besides quoting and paraphrasing, Poe also adapts his source for his own stylistic and rhetorical purposes. For an example of Poe's redesign of Reynolds, see John T. Irwin's discussion of Poe's depiction of the penguins' and albatrosses' nesting system in "The Quincuncial Network in Poe's *Pym*," in *Poe's Pym: Critical Explorations*, ed. Richard Kopley (Durham: Duke University Press, 1992), 175-187.

19. Richard Kopley, Explanatory notes on *The Narrative of Arthur Gordon Pym of Nantucket*, by Edgar Allan Poe (New York: Penguin, 1999), 235n7.

lobbyist of the 1830s.”²⁰ In *Pym*, while Captain Guy begins to look like a determined, brave adventurer when he decides to navigate toward the South Pole, it is Pym who, unable to withhold his angry words, encourages the Captain to push forward when the latter considers quitting. Pym’s effectiveness as a speaker resembles Reynolds’s rhetorical skill in expressing the urgency and glory for the United States to reach for the new scientific jewel.

It is worth noting that Pym is not the only character in the novel who possesses rhetorical prowess. Augustus Barnard, son of a sea captain and friend of Pym, enralls Pym with his nautical tales in the darkness of their shared bedroom. In addition, Dirk Peters, a fierce sailor and mutineer who befriends Augustus and Pym later, directs a conversation that successfully lays the ground for tricking the murderous crew on the *Grampus*.

In *Pym*, Poe not only lauds Reynolds’s perseverance and endeavors, but also channels the admiration of the power of words. However, Poe extends the enchanting power of words into the realm of epistemology and grapples with the problem of knowing. Both Pym and the reader of Poe’s novel stumble in the dark searching for the larger picture of Truth, only to be terrified or impeded by glimpses of the physical power of words. Poe’s novella both honors and counters Reynolds’s rhetoric of the new and the unstoppable. While Reynolds’s expedition rhetoric gestures forward, Poe’s narrative compels the explorers to return to the engulfing Origin that resists conquering, knowing,

20. Whalen, *Edgar Allan Poe and the Masses*, 153.

or narrating. The novella demonstrates the innate weakness of human truth seekers and the annihilating effect of approaching cosmic truth.

2. Reynolds-like Characters in Poe's *Pym*

Poe's novella portrays powerful storytellers and speakers who remind the reader of J. N. Reynolds's mastery of speech. The very beginning of the novel suggests the power of words through the character of Augustus, whose sea stories in the dark bedroom gradually provoke in Pym "the greatest desire to go to sea" (P 1:57). However, this power intensifies when one night resting from some drinking at a party, Pym hears Augustus express vehemently that it would be such a waste of "so glorious a breeze from the southwest" (P 1:58) to lie in bed and fall asleep. Just when Pym thinks that Augustus is talking while drunk, Augustus proclaims the opposite and announces that he "was determined to get up and dress, and go out on a frolic with the boat" (P 1:58). As he listens, Pym relates: "I can hardly tell what possessed me, but the words were no sooner out of his mouth than I felt a thrill of the greatest excitement and pleasure, and thought his mad idea one of the most delightful and most reasonable things in the world" (P 1:58). Pym's description of the effect of Augustus's words in the darkness indicates how words can enchant their audience and compel the audience to follow ideas that are otherwise too wild to entertain. It was not until too late that Pym finds out in moonlight that Augustus,

the owner of the captivating voice in the dark, is undeniably drunk. Disaster ensues, and both boys barely survive the destruction of the *Ariel*, their vessel.²¹

If Augustus's voice in the dark can provoke and mislead Pym, Dirk Peters' words, similarly, play a vital role in tricking the bloodthirsty mutineers of the *Grampus* and eventually saving the lives of Peters, Pym, and Augustus. Having decided to take advantage of the superstitious mutineers of the *Grampus*, Peters plans to disguise Pym as the repulsive corpse of Hartman Rogers, who has died of foul play. However, Pym is not to appear until after Peters has completed the whole staging process. Skillfully, Peters leads the crew members to talk themselves into guilt and then fear fumed with superstition: "Presently he contrived to turn the conversation upon the bloody deeds of the mutiny, and, by degrees, led the men to talk of the thousand superstitions which are so universally current among seamen" (P 1:111). Pym observes that an intense change has manifested itself "in the countenances of those present" (P 1:111), but the one most terrified is the mate, the suspected murderer of Rogers. And then, just after someone brings up the terribly rotten status of the corpse, Peters asks the mate if he wants to dispose of the body. Immediately following is the appearance of Pym, disguised as the corpse. As a masterful speaker who knows how to direct the conversation and anticipate a certain reaction from his audience, Peters induces the most formidable fear into the hearts

21. Critics have suggested a variety of origins for the name of the unfortunate ship. For instance, Pollin speculates that Poe might have drawn inspiration from Shelley, Milton, Cooper, or Shakespeare (P 1:219n1.1G). Kopley observes that Poe is likely recalling an account of sea wreck published in February 1836 by the Norfolk *Beacon* and *Herald*; the ship in the story is called the *Ariel* ("Explanatory Notes" 224n6). Kopley, however, also argues that Poe invokes "the destruction of Jerusalem" by naming the doomed vessel *Ariel*, since Jerusalem is called "Ariel" in Isaiah 29:1, in Kopley's introduction to *The Narrative of Arthur Gordon Pym of Nantucket*, by Edgar Allan Poe (New York: Penguin, 1999), xxiii.

of the crew, especially vulnerable because of the “isolated situation of the brig” (P 1:112) and the sublime darkness created by the tempest. In a way, in this suffocating darkness, Peters the powerful speaker conjures the petrifying dead body into existence.

3. The First Allegory of Knowing: Stumbling in the Dark on the *Grampus*

Besides depicting compelling storytellers and artful speakers who remind the reader of the eloquent Reynolds, Poe’s novel also extends the power of words into the realm of epistemology and investigates the problem of knowing. If the previous two examples of the power of words imply only that it is easy for a listener to be diverted from the truth by a voice in the dark, other events in the novel demonstrate more fully the difficulty of seeking truth while trapped in the dark.

The episode of Pym stumbling in the dark hold on the *Grampus* and trying to read Augustus’s note can be interpreted as an allegory²² of knowing. In this allegory, a weakened truth seeker fumbles in a physically threatening and mentally devastating

22. In principle, Poe disapproves of allegory as a literary genre because often the author is unable to balance between the professed meaning and the hidden meaning of the work. As a result, either “the unity of effect” of the artwork is compromised as the hidden meaning competes with the professed meaning, or the story loses its “earnestness or verisimilitude” in its eagerness to serve the didactic purpose of the allegory (ER 583). However, Poe does not completely banish the possibility of a successful allegory. In his review of Nathaniel Hawthorne’s *Mosses from an Old Manse*, Poe states that the “suggested meaning” of an allegory must operate “in a *very* profound undercurrent,” so much so that it “never ... [interferes] with the upper” layer of meaning, unless the reader chooses to do so (ER 582). Poe’s ideal model of a successful allegory is Baron de la Motte Fouqué’s *Undine*, in which the “unity is absolute” and “unbroken” (ER 257). In his review of Thomas Moore, Poe again commends *Undine*, together with Shelley’s *Sensitive Plant*, because in these two works “the upper current is often exceedingly brilliant and beautiful; but then men *feel* that this upper current *is all*” (ER 337-8).

Therefore, Poe’s professed aesthetic concerns with allegory align with his view of the relationship between Beauty and Truth in an artistic work. While Beauty is the dominant object of art, Truth is not excluded from art as long as it does not interfere with the unity of artistic effect. I choose to read *Pym* as a set of allegories because the novella accords with Poe’s definition of a successful allegory. The problem of knowing would be the undercurrent of meaning, while the sea adventures serves as the upper current. Poe labored to create the verisimilitude of the sea adventures, and the reader’s immersion in the upper current is not interrupted unless s/he decides to investigate the small puzzle pieces left out by Poe, which lead to the undercurrent of the problem of knowing. In other words, Poe’s *Pym* carries an epistemological moral, but this moral is not taught didactically, but impressed upon the reader through mystery, terror, and awe.

darkness, only to become frightened by the fragment of the whole truth that he grasps.

There are three key aspects to the allegory: the menacing darkness that engulfs the truth seeker, the dual nature of the medium that conveys the truth, and the physical power of words that terrifies yet eludes the truth pursuer.

As a truth seeker eager to discover the whereabouts of his friend Augustus and the current situation of the *Grampus*, Pym must struggle against the darkness that deprives him of his physical strength, mental clarity, and, most importantly, his vision. Having been trapped in the hold for “eleven days and nights” (P 1:95), Pym suffers not only due to a severe lack of food, water, air, and light, but also because he suspects that Augustus has abandoned him. Therefore, when finally realizing that Augustus might have delivered an explanation for the past days, Pym is desperate to figure out the content of Augustus’s note so that he might be delivered from his physical peril and emotional distress. In the complete darkness of his confinement, Pym resolves to rub the fragments of phosphorus (leftovers from the untimely and unusual appetite of Tiger, Pym’s dog) against the piece of paper. A glow shines on the paper briefly, but despondency overwhelms Pym as the paper turns out to be “a dreary and unsatisfactory” blank (P 1:78).

If the momentarily illuminated blank paper in the engulfing darkness represents the general plight of the truth seeker, a more subtle yet intriguing component in Poe’s allegory demonstrates the innate human weakness in knowing. This component is the dual nature of the medium employed to convey truth. Augustus decides to pass a note to Pym because the mutineers on the *Grampus* have just banished Augustus’s father,

brutally murdered several crew members, and imprisoned Augustus. Attempting to warn the stow-away Pym of the imminent danger on board, Augustus devises to write a note telling Pym to remain in his hiding place. As a prisoner who has to write in secret, Augustus improvises and produces his note on the back of “a duplicate of the forged letter” (P 1:54), a device intending to help Pym run away from his family and join Augustus secretly on the *Grampus*. The letter, then, is a token of deception, betrayal, and abandonment. As a result, when Augustus attempts to convey truth using the back of the forged letter, truth and lie, as well as protection and abandonment, become the two sides of the same matter. In other words, Truth is mediated by a paradoxical entity of unity and contradiction.

Critics have presented various interpretations regarding the blank note paper that drives Pym into despair. Pollin points out that the paper “should not have been ‘blank’” (P 1:238n3.2D), since it should be either the side of the forged letter or the side of Augustus’s note. Pollin argues that this occasion of narrative inconsistency epitomizes Poe’s practice of verisimilitude, assuming a realistic, logical appearance by providing ample yet “wildly impossible” details (P 1:237n3.2D). Scott Peeples resists reading Augustus’s note as a contradictory or faulty design of Poe, but contends that the “three-sided paper symbolizes” Pym’s account, containing “a warning to the reader on one side, a deliberate deception on the other, and on the impossible third side,” the blank page.²³ More recently, Mitchell C. Lilly understands the note as “an impossible three-

23. Scott Peeples, *Edgar Allan Poe Revisited* (New York: Twayne Publishers, 1998), 62.

dimensional letter,” consisting of the forged letter, the blank page, and the page written with blood.²⁴ Lilly advances the position that the note works as “an unnatural parody of knowledge” and challenges the reader’s need of knowledge gaining and sense making.²⁵

Instead of focusing on the literal or symbolic impossibility of the note, I read the allegedly blank page as a manifestation of human weakness in knowing. I contend that this seemingly conflicting detail of Augustus’s note, in fact, illuminates, as one integral part of the allegory, the epistemological problem encountered by humans. In the dark confinement of the human status, a truth seeker is unaware that Truth is mediated by a paradoxical agent. Pym does not know that one side of the paper is Augustus’s note while the other side the forged letter. That is, Pym cannot entertain the notion that the medium of truth is intertwined or cohabiting with the device of deception. As a result, the truth seeker’s vision is limited by his mind. He can only see the anticipated aspect and will deny the existence of the unexpected. Therefore, when looking for a message of truth and symbol of friendship and protection, it is likely that Pym becomes blind to the letter of lie and token of betrayal and hurt. In a word, the illuminated side is blank, not because of Poe’s inconsistency but because of Pym’s inevitable human weakness in realizing the dual nature of Truth carrier.

If the threatening darkness represents the external challenge of a truth seeker while the double nature of the medium manifests the internal obstacle, the findings of

24. Mitchell C. Lilly, “Edgar Allan Poe’s *The (Unnatural) Narrative of Arthur Gordon Pym*,” *Poe Studies* 48 (2015): 34, Project MUSE (edspmu.S1754609515000024).

25. *Ibid.*, 43.

Pym in the hold paint an equally gloomy picture of the human quest for truth. Intending to obtain the whole truth, the pursuer manages only to secure partial truth; more importantly, the pursuer is seized by the terror in the face of a higher, unexpected, thus unattainable truth, namely the physical power of words. Finally in the hold, with restored courage, wit, and the miraculous help of Tiger, Pym manages to retrieve and restore the note that he has torn in despair. However, Pym is only able to read the concluding portion of the entire three sentences: “*blood — your life depends upon lying close*” (P 1:80). The partially-extracted note provokes “indefinable horror” (P 1:80) in Pym. Remarkably, Pym highlights the profound impact of the word “blood” on him:

And “*blood*” too, that word of all words — so rife at all times with mystery, and suffering, and terror — how trebly full of import did it now appear — how chillily and heavily (disjointed, as it thus was, from any foregoing words to qualify or render it distinct) did its vague syllables fall, amid the deep gloom of my prison, into the innermost recesses of my soul! (P 1:80)

Pym intimates that the writing “blood” in the dark impresses him with the deepest horror.

Charles O’Donnell notes the profound impact of the word “blood” and accurately states that part of the terror is provoked by the “disjointedness [of the word] from other words,” which in turn prevents the reader from grasping “the larger design.”²⁶ However, what is overlooked regarding this episode is that it also illustrates the physical power of words. Not only does the separated word “blood” obscure Augustus’s meaning, but it also

26. Charles O’Donnell, “From Earth to Ether: Poe’s Flight into Space,” *PMLA* 77, no. 1 (1962): 88, <http://www.jstor.org/stable/460691>.

renders the single word mysterious and unearthly in the suffocating darkness. As a result, “blood” is distanced from the narration and logic of Augustus the earthly author. With its almost supernatural, soul-wrecking horror, the word now resembles something created by a divine hand.

In addition, the diction of the passage encourages the reader to associate the written word with a powerful speaking voice. Pym recounts that the word “blood” is “trebly full of import” (P 1:80). “[T]rebly” can indicate both the multiplied effect and the piercing sound of the word. As a result, the written word “blood” now harnesses the power of a spoken word, not unlike how Augustus’s voice enchants Pym in the dark at the beginning of the story or how later Peters’ words lead the mutineers into intolerable fear. Pym does not know until later that the note is scribbled with Augustus’s blood, which means that “blood” is more than a representation of blood the idea, but blood the substance. In this way, what Pym reads is what he physically and literally gets, although unknowingly. Therefore, as the single word “blood” becomes separated from its mundane context, it is transformed into a command spoken or written by an unearthly origin. When Pym shudders at the word of “blood,” “that word of all words,” little does he know that the “mystery, and suffering, and terror” (P 1:80) he experiences originate not only from the linguistic association with the word, but also from a human’s clash with the truth of Creation—that language creates physical reality.

In sum, as an allegory of knowing, the episode of Augustus’s note not only demonstrates the threatening environment, tricky medium, and innate weakness of a truth

seeker, but it also suggests that language can create physical reality, a higher truth nonetheless eluding the truth pursuer. This truth, though partially confronted, produces the most intense terror. The rest of the work continues to portray the truth pursuer fumbling in the oppressive darkness and stumbling over truths that he cannot recognize.

4. The Second Allegory of Knowing: Stumbling in the Dark of Tsalal

After the plot of imprisonment, starvation, bloodshed, desperate cannibalism, and the loss of Augustus (first to gangrene and then to the preying sharks around the half-wrecked *Grampus*), Pym's journey seems to take a brighter and even a more scientific turn after Pym and Peters are rescued by the Liverpool schooner, the *Jane Guy*.²⁷ Captain Guy, the leader of the schooner, strangely and conveniently refashions his commercial goal into a scientific one. After searching in vain for the Auroras to "settle the question" of their existence (P 1:157), Captain Guy extends his scientific ambition into the South Pole. Soon, Pym proudly announces that they "had now advanced to the southward more than eight degrees farther than any previous navigators" (P 1:166). However, this promising appearance of a quest into the unknown unveils itself as the prelude to another episode of struggling in the dark. Similar to the one in the hold of the *Grampus*, the story on the Island of Tsalal features a threatening darkness, the paradoxical medium of truth, and the physical power of words, encountered by the unaware truth seeker.

For the explorers of the *Jane Guy* "in the hope of making a profitable speculation" (P 1:170) in their discovery, Tsalal reveals itself to be a literal and metaphysical darkness

27. Poe sailed in and out of Liverpool in 1815 (PL 24-25) and 1820 (PL 44-46) with the Allans.

more vicious than that in the hold of the *Grampus*. Not long after Pym rejoices in the new waters on which the ship sails, Pym's party encounters a group of men in four canoes, natives of an island called Tsalal. Pym observes that these men are of "jet black" complexion, wear black animal skin, carry dark clubs, and fill the bottom of their boats with "black stones" (P 1:168). Despite their contrasting appearances, the party of white visitors and the group of black natives seem to engage in a friendly gathering at the chief's hut. The union proves peaceful and satisfactory, since the visitors are soon able to enlist the natives to help with mining the island for the former's profit. If the dark-colored island and its dark-skinned residents are a new text, the explorers seem capable of unpacking and appropriating it for their commercial and imperialistic purposes. However, the success of the new expedition turns out to be an illusion as most of Pym's party dies in massacres plotted by the seemingly friendly and cooperative natives. After surviving a schemed rockslide and witnessing the brutal siege and destruction of the remaining crew members of the *Jane Guy*, Pym and Peters find themselves roaming and hiding in the dark hills and pits on Tsalal. The dark-colored Tsalal ceases to be a profitable, novel venue, but a darkness that devours its inattentive readers.

Indeed, the dark Tsalal has sent the visitors a message, one that is mediated by the majestically patterned geography of the island. Just as the note paper on the *Grampus* is a unity made of two contrasting sides (account of truth and letter of lie, token of friendship and symbol of betrayal), the geography of Tsalal, epitomized by the strange vein-like stream and the stratified rocks, also suggests that unity comprises conflicting aspects or

members. More importantly, the geography dramatically reflects differences within the whole. Pym depicts the water of the streams on Tsalal as “limpid” (P 1:171) like a mirror but its limpidity is masked by “distinct” yet cohabitating “veins” (P 1:172). Each vein exhibits “a distinct hue” of purple but does not “commingle” with the ones next to it (P 1:172). Aptly, Whalen characterizes the water as “singular and plural, singular because it is plural.”²⁸ Pym likens the astounding effect of the water on the explorers to that of the mirror on the native Too-wit, who, during his first visit on board of the *Jane Guy*, becomes terrorized and incapacitated upon seeing his reflections in two facing mirrors. Jean Ricardou explains that until the mirror incident, the natives have not been aware of “the Same and the Other” because the veins in the stream have prevented them from having a “mirroring surface at their disposal.”²⁹ Although Ricardou’s analysis captures the shocking power of Unity and Separateness, I propose also to examine the violent nature of Too-wit’s realization. Metaphorically speaking, the double mirror of the *Jane Guy* serves as a ferocious blade that splits Too-wit, forcing the whole to become parts.

Unfortunately, Pym’s party does not realize the terror of splitting the unity. They even show their inclination to it when they push a blade into the veins of the stream. Pym’s party discovers that the water will not be separated when cut “athwart the veins” with a knife, but it will display “a perfect separation” if the knife cuts exactly “between two lines” (P 1:172) of the veins. What the blade has done to the stream echoes what the

28. Whalen, *Edgar Allan Poe and the Masses*, 174.

29. Jean Ricardou, “The Singular Character of the Water,” trans. Frank Towne, *Poe Studies* 9, no. 1 (June 1976): 4, <http://www.eapoe.org/pstudies/ps1970/p1976101.htm>.

mirror has done to Too-wit: it is a symbol of violence that pierces, breaks, and shatters unity into difference. Although unity is innately made of distinction, it will meet its destruction when its inner differences are reinforced. Hence, the stream can be separated when cut precisely along the veins, and Too-wit is terrified almost to death when realizing that his image can be produced multiple times in mirrors. The white explorers' inclination to separate and differentiate is confirmed again when they begin building a marketplace and later a curing house for the sea-cucumbers on Tsalal. The natural outcome of their commercial imperialism will separate a formerly unified Tsalal into commercial resources and non-commercial substances; the natives will also be differentiated into workers for capitalism and non-workers.

The explorers' unhesitating and persistent action of separation is quickly returned with a similarly disastrous action of separating, contrived by the natives using another geographic feature of Tsalal, the stratified rocks. On their way to a second gathering at Too-wit's hut, most of the explorers are buried alive in a massive rockslide as they pass through the gorges. After much agonizing struggle, only Pym and Peters survive the entombment. Later Pym discovers that "the singular stratification" of the hills makes it easy to "split the soil into perpendicular layers or ridges running parallel with one another" (P 1:185). The natives have taken advantage of the stratified rocks and "driven into the earth" (P 1:184) wooden stakes attached with "cords of grape vine" (P 1:185) to break down the soil and engineer a rockslide. The description of the stratification of the hills resembles that of the veins in the stream. The stream remains whole until it is cut

along the lines of the distinctive, neighboring veins. Similarly, the hills stay together until it is disrupted into parallel strata or strips. Even the action of driving stakes into the hills echoes that of pushing a blade into the stream. Hence, the intertwined status of unity and distinction is again manifested by the stratified rocks on Tsalal, so is the message that disaster will happen when reinforcing separateness within the whole.

Therefore, when he observes that there is a “bond” between the strange water and “the black hills” because the gorges “must have been carved out by a torrent,” Ricardou is only partially correct about the geographic oneness of Tsalal.³⁰ The stream might have left its imprints on the rocks, but more importantly, the two geographic wonders share the same pattern that binds separateness within unity. They also present the ominous result of violently reinforcing differences within unity. However, just as Pym is clueless about the dual nature of the note paper on the *Grampus*, so too does Pym fail to perceive the meaning of the Tsalalian geography. He sees the majestic geographic pattern as either a wonder that needs to get used to (the stream) or a treacherous device that kills his companions (the stratified rocks) but also happens to save his life (a fissure within the rocks).

Considering the significance of the vein-filled stream and the stratified rocks, it is not surprising that it is at the heart of the geographic pattern of Tsalal that Pym finds the key message of truth. At the same time, it is also not surprising that Pym cannot grasp the message as it is mediated by the geography. After the rockslide, Pym and Peters become

30. Ibid.

stranded in the wilderness of Tsalal, facing starvation and destruction if found by the natives. During one of their desperate explorations among the hills, the two discover some mystic chasms inside the hills. These chasms are made of “a very black and shining granite” (P 1:193) and they form letter-like shapes. At the end of one of the “letters,” there appears, in a bed of marl, “a range of singular-looking indentures” (P 1:195). The left portion of the indentures resembles “the intentional, although rude, representation of a human figure standing erect, with outstretched arm” (P 1:195). The right portion of the indentures looks like “alphabetical characters,” but while Peters believes these are letters, Pym dismisses Peters’ “idle opinion” and insists that the indentures are only the natural marks left after “large flakes of marl” fall off the surface (P 1:195). Pym offers no further description or explanation of these tunnels and engravings other than his regret that the chasms offer “no escape” out of their “prison” (P 1:195). He is not going to have a chance to revisit the topic, either, since days later another violent encounter with the natives banish Pym and Peters from Tsalal and eventually leave the two and Nu-Nu, the captured native, floating on the “wide and desolate Antarctic Ocean” (P 1:201) in a small canoe.

If the mystery wrought at the depths of Tsalal’s hills is left unattended by Pym—partly because he disregards it and partly because of the hostile environment, the enigma of the South Pole, presumably Pym’s “most intensely exciting [secret]” (P 1:166), gets veiled by a sudden halt of the narrative. With a thrilling speed, Pym’s canoe travels to the brink of a gaping abyss at the South Pole when a snow white “shrouded human figure” (P 1:206) emerges to meet the travelers. However, just as the reader is about to find out what

happens next, Pym's narrative is severed, as if by a swift yet invisible blade, and then usurped by an anonymous "Note," announcing "the late sudden and distressing death of Mr. Pym" (P 1:207) without further details. The unknown writer then proceeds to translate the imprints and writings in the chasms, but offers little account, except for a vague promise, of what happens to Pym after meeting the shrouded human figure at the South Pole.³¹

Rather than questioning the reliability of the volunteered translation of the Tsalalian marks by the "Note," I argue that the "Note" is a key to uncovering the third element of Poe's Tsalalian allegory of knowing, namely the physical power of words, witnessed unknowingly by the truth seeker. However, before analyzing why Pym's findings in the Tsalalian pits demonstrate the physical power of words and before speculating on Pym's experience at the South Pole, I will first discuss why the "Note" is a valid source for interpreting the Tsalalian imprints in the following interlude section.

5. Interlude, or the Third Allegory of Knowing: Stumbling in the Dark of *Pym*

Although the correctness of the translation advanced by the "Note" has been confirmed by critics such as Irwin and Pollin (details will be shown in the next section), I maintain that the accuracy of the translation is not the only reason for trusting the "Note." More importantly, the "Note" functions as an integral part of a third allegory of knowing in Poe's novel. While the first two allegories, the one in the hold of the *Grampus* and the one on the island of Tsalal, feature Pym or Pym's party as the clueless truth seeker(s), this

31. Intriguingly, Pym does not get a chance to narrate his own "finale," just as Reynolds's prospect of his "finale" deteriorated as he was removed from the Expedition.

third allegory posits the reader of Poe's novel as the truth pursuer, struggling in a vicious darkness that wields the physical power of words. The endnote of Poe's novel, therefore, serves as rays of knowledge, furnishing glimpses of the terrifying truth for the meaning of Pym's account.

Presented with an interrupted account and then a dead story-teller, readers anticipating Pym's great secret find themselves trapped in the darkness. This darkness, moreover, is predatory. Paul Rosenzweig remarks that the unknown writer serves as an unexpected "mediator" who proves "the distance that lies between the events themselves and our knowledge of them."³² Paul Eakin comments that the unknown writer takes an unearthly position which allows him a kind of "transcendence" that Pym does not have.³³ While Rosenzweig and Eakin correctly observe the detached or transcending status of the author of the "Note," I further contend that a supernatural force, not Pym, in fact, takes the narrative control. The force disrupts Pym from narrating his own ending and replaces it with one that is more removed from Pym's experience and the reader's anticipation, since the new ending appears to withhold information about the South Pole. More importantly, it is even reasonable to speculate that this mystic hand enacts Pym's death by writing about it concisely, swiftly, and definitively. Although the South Pole does not necessarily end Pym's life, the "Note" does. In a word, like Pym in the hold on the

32. Paul Rosenzweig, "'Dust within the Rock': the Phantasm of Meaning in *The Narrative of Arthur Gordon Pym*," *Studies in the Novel* 14, no. 2 (1982): 140, <http://www.jstor.org/stable/29532156>.

33. Paul John Eakin, "Poe's Sense of an Ending," *American Literature: A Journal of Literary History, Criticism, and Bibliography* 45, no. 1 (1973): 20, <http://www.jstor.org/stable/2924535>.

Grampus, Pym's readers are trapped in darkness, while this darkness takes away life with the power of words.

The "Note," then, serves as the light rubbed onto the tricky terrain of Pym's account and provides a glimpse of the meaning of Pym's discovery. Trapped in the metaphorical dark, readers must stumble and strive to gather clues out of "some of the most faintly-detailed incidents of the narrative" (P 1:208), as the note writer good-naturedly suggests. Like the puzzled Pym in the hold of the *Grampus*, readers pine for glimpses of light and regret that Pym's message is now rendered incomplete because of the untimely death of Pym. As a result, when the endnote emerges and offers to help readers make sense of Pym's narrative, it is suitable to apply these bits of light onto the dimmed, fragmented mystery.

Granted, the glimmer of the leftover phosphorus affords Pym only part of Augustus's note, but the partial message still manages to warn and protect Pym, the exact effect intended by Augustus. Analogously, although the light of the "Note," stingy in particular on the details of Pym's death, offers the reader less than a full view of or a definitive answer to Pym's experience, it must still carry some truth that points the reader to the right direction. No matter how bizarre or "unrealistic" it is for Pym to gather the remaining phosphorus and shine light on the note paper, the method works within the allegorical world of Poe. Similarly, because the reader of Poe's novel is now hurled into the same allegorical, epistemological universe as Pym, the method of shining the light of the "Note" onto Pym's account will work as well. Therefore, I read the endnote as a

bridge to Pym's secret and possibly Pym's shadowy fate, since the "Note" operates as a crucial part of the pervading imagery of truth seeking in Poe's novel.

6. The Second Allegory Continued: The Physical Power of Words and the Paradox of Unity and Difference

Shining the light of the "Note" on Pym's findings in the dark tunnels on Tsalal, the reader of the novel might discover that the engravings in the pits demonstrate the physical power of words. According to the "Note," the shapes of the tunnels spell out "an Ethiopian verbal root" that means "'To be shady'—whence all the inflections of shadow or darkness" (P 1:207). The indentures on the wall of one of the tunnels are also "the work of art" (P 1:208), not nature's work as Pym has judged. The left portion of the indentures turns out to be "the representation of a human form," with its arm "outstretched toward the south" (P 1:208). The letter-like imprints on the upper right reveal to be "the Arabic verbal root" of "'To be white,' whence all the inflections of brilliancy and whiteness" (P 1:208). The letter-like marks on the lower right "formed the full Egyptian word" of "'The region of the south'" (P 1:208). The "Note" further suggests that "upon minute philological scrutiny" (P 1:208), the reader might find the name of "Tsalal" associated etymologically with either the pits or the writings in the pits.

As a result, the "Note" seems to provide little assistance to the decoding of Tsalal. Despite the whimsical and hyperbolic appearance of the most of the novel, the linguistic accuracy of the "Note" is acknowledged by scholars: the verbal roots are

identified correctly³⁴ and the word “Tsalal” does mean shadow or darkness.³⁵ Therefore, while it offers to explain the mysterious imprints on Tsalal, the “Note” appears to impart little further knowledge. Indeed, Rosenzweig comments that the deciphering gesture of the “Note” “leads only to what we already know—that the island is dark or black and to the south lies whiteness.”³⁶ Rosenzweig further reads this redundancy as Poe’s playful demonstration that no one is able to ascertain meaning despite the diligent search.

I propose, however, to approach the engravings on Tsalal from the opposite direction. Instead of reading the writings of “To be shady,” “To be white,” and “The region of the south” as a redundant description of the geography of the black Tsalal and the white Polar region, I contend that these writings are the command that creates the physical reality of Tsalal and the Polar region. In other words, the writings are the cause, not the depiction, of blackness and whiteness. Just as the word “blood” in Augustus’s note is actually the substance of blood, the word “To be shady,” formed by the pitch-dark tunnels on the black Tsalal, suggests that this word *is* the darkest darkness. Therefore, when the “Note” explains that from “To be shady” comes “all the inflections of shadow or darkness” (P 1:207), it is not only identifying the origin of the words for shadow or darkness, but also indicating the originator of all the physical shadow or darkness. Similarly, the word for “To be white” is not only the origin of all other words meaning

34. P 361n6A; John T. Irwin, *American Hieroglyphics: The Symbol of the Egyptian Hieroglyphics in the American Renaissance* (New Haven: Yale University Press, 1980), 198-199.

35. P 361n6A); Irwin, *American Hieroglyphics*, 202.

36. Rosenzweig, “Dust within the Rock,” 148.

“brilliancy and whiteness” (P 1:207), but also the cause of the physical existence of all kinds of brilliancy and whiteness. Together, the word for “To be white” and the word for “The region of the south” command a white Polar region into existence, which is to be encountered by Pym’s party. In a word, what Pym has witnessed unknowingly is the site of Creation via the power of words, similar to what the beginning of Genesis has depicted.

Notably, this pictorial site of Creation conveys the same lesson demonstrated by the vein-like texture of the stream and the stratification of the rocks: unity is formed by separateness and seemingly contrasting existences, in fact, share the same origin. When reading the engravings as a set of command of Creation, “To be shady” serves as the beginning, while “To be white” and “The region of the south” signal the end or completion of that command. In addition, spatially, the order for whiteness, though distinct from that for darkness, is also contained by the latter, since the writings of whiteness are found at the end of the dark, letter-shaped tunnels. As a result, whiteness is both distinct from and encompassed by darkness. As darkness begins Creation and whiteness completes Creation, we can also infer that the beginning also embeds the completion or ending. In short, while blackness and whiteness are perceived as contrary existences or concepts, the Creation site discloses their cohabiting, embracing relationship.

The Creation site also illustrates the epistemological disadvantage of the human race. Since he fails to realize that the tunnels are the site of Creation, Pym cannot register

the paradoxical relationship between blackness and whiteness. Hence, he is incapable of entertaining how the drawing of the human figure might reflect the place of the human race. Placed between the writings of darkness and the command of whiteness, the human figure indicates that humans are trapped between the two poles, unaware of the larger picture of their unity. Without the knowledge of unity, humans lead their lives in the myth that blackness and whiteness are countering forces. Therefore, they take sides and struggle to define one against the other, endeavoring to deceive, exploit, and destroy each other, as is demonstrated by the white visitors and the black natives on Tsalal.³⁷ In addition, the pictorial site of Creation shows that humans are destined to travel from the

37. There is a large body of scholarship on the racial implication of the blackness and whiteness in *Pym*. The discussion ranges from gauging the racial attitude of Poe and the novel to fathoming the racial, political, or religious context of Poe's time. For instance, In her *Playing in the Dark: Whiteness and the Literary Imagination* (1992), Toni Morrison reads the "blinding whiteness" at the end of *Pym* as "both antidote for and meditation on" the dark shadow that provokes "terror and longing" (33). Morrison thus argues that the treatment of the threatening yet enticing darkness epitomizes the American "choked representation of an Africanist presence" (17). Teresa A. Goddu, in her *Gothic America: Narrative, History, and Nation* (1997), continues Morrison's approach of reading race in the context of gothic romances. Goddu maintains that Poe's text "link[s]" the American gothic and race via "a regional identification with the South" (75). In his shorter study, John Carlos Rowe declares that Poe is "proslavery" (117) and that Poe's novel is a racist text. Similarly, Sidney Kaplan claims that Poe casts his native Tsalalians in the "image of the American stereotype of the minstrel Negro" (xvii). Kaplan further argues that the novel reflects Poe's defense of slavery on the ground of the nature of the black race. Harold Beaver, in his introduction to the 1975 Penguin edition of the novel, observes that the Tsalalian's revolt against Pym's party parallels the slave uprising in Poe's time.

In contrast, Terence Whalen situates the novel not only in the fear of potential slave uprising but also in the fear of "black signification" (180), the black race's ability to access and appropriate meaning to deceive and plot against the white race. However, Whalen emphasizes that Poe's natives are produced to appeal to a nationwide readership and are designed primarily for "effect" (185), since the natives fit neither the image of the protégé promoted by "paternal racism" nor the "trainable savage" (185) advanced by Reynolds and Morrell. More recently, situating the novel in the "origins-obsessed racialist culture" (80) nineteenth-century America, Shaindy Rudoff maintains that *Pym* examines the issue of religious authority that justified slavery. David Faflik broadens the discussion of the conflicts between races to other kinds of borders. Faflik argues that *Pym* participates not only in the antebellum preoccupation with racial boundaries, but also in the "Yankee-Cavalier" and "Texan-Mexican" (288) matters.

The list above is nowhere near comprehensive and many scholars have offered valuable insights for understanding antebellum racial discourse and its political, economic, and cultural roots and influence. However, I approach Poe's contrasting and clashing blackness and whiteness not by way of race, but as a means to grasp Poe's notion of parts and unity, or individuals and the whole, the cosmological, philosophical and spiritual implications of which will culminate in Poe's *Eureka*.

beginning of the Creation to the end of it, and the command is obeyed by Pym's party in the canoe, the miniature of humanity. Not only is the engraved human figure placed in between blackness and whiteness, but it also bears an arm "outstretched toward the south" (P 1:208), which indicates that the human race is fated to travel from blackness to whiteness, from the Origin to the End. The notion of destiny is already entertained by Curtis Fukuchi, who believes that Pym is "divinely ordained" to travel to the South Pole region.³⁸ Again, the power of words is fulfilled as Pym's party finds itself traveling in a little canoe, carried swiftly to the very south by "a powerful current" (P 1:204). The passengers of the canoe are the survivors of the betrayal and brutal antagonism between the two conflicting forces of blackness and whiteness. The passengers consist of Pym the white man, Peters "the son of an Indian squaw" and "a fur-trader" (P 1:87), and Nu-Nu the black native on Tsalal, captured by the former two during the final clash between the visitors and the locals. Therefore, the canoe represents humanity, as it contains different

38. Curtis Fukuchi, "Poe's Providential *Narrative of Arthur Gordon Pym*," *ESQ: A Journal of the American Renaissance* 27, no. 3 (1981): 147.

racés (black, white, and red),³⁹ different status (free and captive), various sins of humans (violence, murder, and ignorance), and, nevertheless, the thirst to know or to discover, as the party has “resolved to steer boldly to the southward” (P 1:202), in the “wide and desolate Antarctic Ocean” (P 1:201), hoping for new lands and warmer weather.

As the boat of humanity travels toward the region of the south, i.e. the completion of Creation, Pym paints the new realm with a kind of sublimity threatening to overwhelm and subdue life. According to Pym, the South Pole region is one “of novelty and wonder” (P 1:203), but it also evinces a sense of gloom and annihilation. As the canoe travels closer to the South Pole, the “high range of light gray vapour” (P 1:203) in the horizon, having turned white, becomes “a limitless cataract, rolling silently into the sea from some immense and far-distant rampart in the heaven” (P 1:205). The water surrounding the canoe has grown warmer and warmer, “even unpleasant to the touch,” and rocks the canoe from time to time with its “violent agitation” (P 1:204). When the canoe progresses

39. The exact racial status of Peters is unclear and even shifting, since Pym describes Peters first as a mixed-race Indian and later as a white man. Discussions on Peters’ racial identity form another important part of the scholarship on race in *Pym*. Although early criticism has designated Peters’ racial uncertainty as Poe’s mistake (Ridgely and Haverstick), the majority of later critics contend for the racial, social, or epistemological significance of this seemingly contradictory detail of the novel. For instance, David Greven states that the text is “unbearably racist” on the issue of Peters. However, Greven notes that the text is also “subversive” (53) by exposing Pym’s racial “hypocrisy” (55). Dana D. Nelson argues that the contradictory depiction of Peters “finely illustrates the arbitrary social basis of racial categorization” (101). John C. Havard reads Pym’s changing characterization of Peters as an example of Poe’s “biting hoaxical satire” (109) of his readers’ accepted yet unfounded racial knowledge. Mitchell C. Lilly contends that the racial change of Peters is a narrative shift that challenges what Pym considers as “the naturalness of the racial epistemology and hegemony” (53). The notion of race, in fact, becomes untrustworthy and perplexing. Notably, Lilly believes that Peters “coexists as a native, black, *and* white man” (52). This debatable, fluid notion and depiction of race, nevertheless, is a fit component of the human race to be included in the canoe. In addition, the question of Peters’ racial discrepancy echoes that of the allegedly blank note paper on the *Grampus*. The so-called contradiction is less an error of Poe than a reflection of the epistemological flaws of humans. In the case of racial identity, the inconsistency questions the validity of racial designation. In the case of knowledge acquired through reading, however, it demonstrates the limit of human mind when confronted by the paradoxical truth-carrier.

even closer to the Pole, it is encompassed by “[a] sullen darkness” and is nearly “overwhelmed” by the white ash-like substance falling from the sky (P 1:205). The sea now turns “milky” white and a mysterious light rises from the “depths of the ocean” and approaches the canoe (P 1:205).⁴⁰ The silent cataract, the looming darkness, and the steaming white ocean create a sublime tranquility. Significantly, it is amid this tranquility that Nu-Nu dies and Peters and Pym become languid. In a word, if the beginning of Creation is wrought with the most intense darkness in the deep belly of the treacherous terrain of Tsalal, the region of the completion of Creation manifests an ultimate serenity that stifles life. If Pym has little hope surviving in the dark tunnels on Tsalal, his chance of withstanding the white sublimity in the Polar region is also slim.

It is precisely out of this beautiful yet desolate finality that the climax of Pym’s narrative emerges. As the canoe flows rapidly to the cataract, Pym gets glimpses of “a chaos of flitting and indistinct images” from the occasional “rents” in the cataract (P 1:205), suggesting that the solitary whiteness is not all that the South Pole contains and that there is something, or even a world, beyond. Pym’s canoe seems to have reached the gateway to the much anticipated polar mystery, and it appears to be ushered right in by the current:

And now we rushed into the embraces of the cataract, where a chasm threw itself open to receive us. But there arose in our pathway a shrouded human figure, very

40. The depiction of a strange light rising from the bottom of the sea and the sense of doom echo Poe’s early poem, “The City in the Sea” (M 1:196-204).

far larger in its proportions than any dweller among men. And the hue of the skin of the figure was of the perfect whiteness of the snow. (P 1:206)

However, this breathtaking pace of the narrative is only met by an abrupt end. The reader does not know what happens next to Pym. It is even difficult to infer based on Pym's description. Rosenzweig points out insightfully that the nature of the chasm and the shrouded figure is "ambiguous."⁴¹ If the word "embraces" suggests that the abyss might be benevolent, the image of the abyss throwing itself open, however, hints at a vicious, predatory nature. Similarly, the reader cannot decide whether the shrouded human figure, rising before the rushing canoe, is to engineer destruction, salvation, or entirely something else.⁴²

Having fully acknowledged the obscurity of the ending of Pym's account, however, we can now proceed to theorize on what awaits Pym at the South Pole (if he does enter). Based on the mirroring pattern of the whole novel, I suggest that it is possible for Pym to find another site of Creation within the opening chasm of the South Pole, one echoing that at the heart of the Tsalalian hills.⁴³

41. Rosenzweig, "Dust within the Rock," 144.

42. Roderick and Madeline Usher also "embrace" at the end of "The Fall of the House Usher" (M 2:392-422), Poe's renowned 1839 tale of supernatural and psychological terror.

43. Critics have eloquently argued for the mirroring pattern of Poe's novel. For instance, O'Donnell maintains that there are many "parallel events" in the two halves of the book. Richard Kopley states that the "double appearance" and "coded infinite reflection" of phrases, images, and events of the novel have allegorical significance. When adopting O'Donnell's and Kopley's insight, we can advance the position that the depths of the dark Tsalal might find its counterpart at the bottom of the gaping abyss in the white South Pole region.

As the Tsalalian pits embody writings, the polar chasm could also contain linguistic commands. More specifically, if the caves on Tsalal give the command to materialize blackness on the island while whiteness at the polar region, the gulf at the Pole will very likely demonstrate an echoing direction to fulfill whiteness at the Pole but blackness on Tsalal. In other words, it is possible for Pym to encounter another set of imprints at the enigmatic South Pole, conjuring, via the physical power of words, whiteness into existence at the Pole, while promising blackness to be found on Tsalal.

Consequently, it will be difficult to distinguish which Creation site is the primary one: whether the black Tsalal engenders the white South Pole or the white South Pole originates the dark island. This notion of interchangeable cause and effect will see its fruition in Poe's *Eureka*, the scientific, poetic treatise published near the end of Poe's life. Poe describes in *Eureka* that while man's work can only create "a particular effect" based on "a particular cause," divine design, however, shows "complete *mutuality* of adaptation" (L 88),⁴⁴ so much so that "we may take at any time a cause for an effect, or the converse—so that we can never absolutely decide which is which" (L 88-89).

Similarly, as cause and effect mutually embed, Origin and Ending also contain each other. At the black Creation site, it seems that darkness signals the beginning of Creation while whiteness means the completion. At the white Creation site, however, it could show that whiteness marks the beginning while blackness represents the completion. That is to say, at each location, the completion of Creation incorporates a

44. Poe also advanced the same idea in "The American Drama" (ER 366) and a November 1844 Marginalia entry (ER 1315).

new command for another Creation. The ending gives life to another beginning. Hence, the great mystery that lies at the South Pole might be another episode of the power of words, an episode that speaks new life or new beginning out of the fulfillment of old creation. Again, *Eureka* will render perhaps the most poetic presentation of this cyclic order of Origin and Ending, old and new. When postulating on the fate of the Universe, Poe announces that the total annihilation of our current world does not mean the end, but the beginning of another cycle of Creation, bringing “new and perhaps totally different” (L 103) orders and situations. More importantly, the cycles “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” (L 103). In other words, Origin and Ending will constantly replace each other, and to have this kind of knowledge one would have to be part of the Divine Consciousness.

As a result, Pym’s canoe, or the collective human, finally is about to come face to face with the Ultimate Truth—the power of words that creates ending within beginning and beginning within ending; the desire for Knowledge is about to be satisfied. I interpret the shrouded human figure that rises and meets Pym’s canoe as the collective Human Soul. According to “The Power of Words,” one of Poe’s angelic tales published in 1845, to “quench” the “thirst to know” means to “extinguish the soul’s self” (M 3:1212). If Pym does obtain the ultimate secret, the Soul is indeed dead, wrapped in burial garments. However, if Pym somehow either recoils from or fails to perceive the ultimate secret,

perhaps it is because the Soul warns Pym of the consequence right before Pym embraces the chasm.

The shrouded figure has been haunting the imagination and speculation of countless critics for as long as the work has been studied. For example, the figure is interpreted as “the great maternal divinity,”⁴⁵ “perfect unity” achieved in death,⁴⁶ the ultimate knowledge,⁴⁷ the “symbolic knowledge of the inorganic life,”⁴⁸ the “creative imagination,”⁴⁹ the white margin at the bottom of a page,⁵⁰ Pym’s “own shadow unrecognized,”⁵¹ the “spiritual revivification” of Nu-Nu,⁵² a retelling of the optic specter described by Sir David Brewster’s *Letters on Natural Magic*,⁵³ a three-layer compound of allegory,⁵⁴ and the symbol of “a breakdown” of meaning through which Poe ridicules the

45. Marie Bonaparte, *The Life and Works of Edgar Allan Poe: A Psycho-Analytic Interpretation*, trans. John Rodker (London: Imago, 1949), 350.

46. Joseph J. Moldenhauer, “Imagination and Perversity in *The Narrative of Arthur Gordon Pym*,” *Texas Studies in Literature and Language* 13, no. 2 (1971): 278, <http://www.jstor.org/stable/40754151>.

47. Helen Lee, “Possibilities of Pym,” *English Journal* 55, no. 9 (1966): 1153, <http://www.jstor.org/stable/812302>.

48. O’Donnell, “From Earth to Ether,” 89.

49. Daniel A. Wells, “Engraved Within the Hills: Further Perspectives on the Ending of *Pym*,” *Poe Studies* 10, no. 1 (1977): 14, <http://www.eapoe.org/pstudies/ps1970/p1977102.htm>.

50. Ricardou, “‘The Singular Character,’” 5.

51. Irwin, *American Hieroglyphics*, 216.

52. Goddu, *Gothic America*, 92.

53. Selma B. Brody, “Poe’s Use of Brewster’s ‘Letters on Natural Magic.’” (Edgar Allan Poe, David Brewster),” *English Language Notes* 1 (1989): 53, Academic OneFile (edsgcl.8807614).

54. Kopley, Explanatory notes of *Narrative of Arthur Gordon Pym*, 242-44. The three layers are the ship *Penguin*, the lost mother and brother of Poe, and the fall of Jerusalem.

“racist thinking” of his culture.⁵⁵ While these selected readings reflect the text’s deep entanglement with the problem of knowing, writing, terror, and loss, my reading of the figure as the collective Human Soul offers another way to capture Poe’s fascination with the liminal space of life and death, remembrance and oblivion, and knowledge and ignorance—all in accordance with the text’s ambiguity.

In sum, not only does the “Note” offer an explanation for the meaning of the mysterious imprints on Tsalal, but it also suggests that Pym does receive a message written via the black geography of Tsalal and the white terrain of the Polar region. Wijkmark argues that the ending of Pym’s account encapsulates the excitement caused by the prospective launching of the United States Exploring Expedition. Wijkmark further claims that Poe “focus[es] on this pivotal point rather than on what might lie beyond.”⁵⁶ I contend, however, that Poe, through the “Note,” has suggested some answer to Pym’s most intense secret, although it might not be what the reader has expected. Pym’s unstoppable desire for the unknown and the unfathomable is finally satiated, or at least arrested, at the South Pole. However, what he might have learned is that the championed subject of human knowledge—in the form of the mystic South Pole—only reveals a terrifying message of the duality of cause and effect, beginning and ending, life and death, unity and contrast. As our physical reality is but the result of linguistic construct by

55. John C. Havard, “‘Trust to the Shrewdness and Common Sense of the Public’: *The Narrative of Arthur Gordon Pym* as a Hoaxical Satire of Racist Epistemologies,” in *Deciphering Poe: Subtexts, Contexts, Subversive Meanings*, ed. Alexandra Urakova (Bethlehem: Lehigh University Press, 2013), 116, 115.

56. Wijkmark, “Poe’s *Pym*,” 88.

a higher intelligence, maybe we can infer that our knowledge of the material world will also have a boundary, since the material world is like a divinely ordained linguistic command, with a beginning and an ending. We might think that there is little that can repress our desire for knowledge, but, in fact, it is easy for our body and mind to deteriorate at the ominous limit.

7. Conclusion

In “The Power of Words,” one of Poe’s visionary tales published seven years after *Pym*, Agathos the angelic being intimates the secret of Creation: “This wild star — it is now three centuries since, with clasped hands, and with streaming eyes, at the feet of my beloved — I spoke it — with a few passionate sentences — into birth” (M 3:1215). This beautiful expression of the physical power of words sees its early though subtle resonance in *The Narrative of Arthur Gordon Pym*. Cynthia Miecznikowski believes that *Pym* shows the “inability of language” when expressing “what can only be imagined.”⁵⁷ I propose the opposite: Pym’s voice is removed at the very moment of revelation, but it is not because he or Poe cannot or do not know how to express the findings. Even if Pym does reach the truth, his voice is removed and replaced by a higher voice which harnesses more power when it comes to narrative control. In other words, Pym’s narrative is controlled by an invisible, unearthly, yet more definitive hand.

What Pym might discover at the South Pole suggests a force that is higher, unattainable, and terrifying. Perhaps the much desired new knowledge does not empower

57. Cynthia Miecznikowski, “End(ing)s and Mean(ing)s in *Pym* And *Eureka*,” *Studies in Short Fiction* 27, no. 1 (1990): 58, Academic OneFile (edsgcl.10964628).

the human seekers, contrary to what is promoted in the rhetoric of Reynolds. In his famous 1836 *Address*, the promoter of the United States South Seas Exploring Expedition declares that “[a]s long as there is mind to act upon matter, the realms of science must be enlarged, and nature and her laws be better understood, and more understandingly applied to the great purpose of life.”⁵⁸ Reynolds’s argument is filled with the confidence and determination in expanding human knowledge, demystifying natural laws, and repurposing nature for human lives. This glorious yet challenging mission, contends Reynolds, will be carried out in all eagerness by the “hardy and adventurous” American seamen, whose ambition and strength know no bounds: they would not hesitate to “grapple with an enemy on the deep, or to pursue their gigantic game under the burning line ... or pushing their adventurous barks into the high southern latitudes, to circle the globe within the Antarctic circle, and attain the Pole itself.”⁵⁹ With a few sentences, Reynolds paints a vivid picture of valor and conquest, subjecting the South Seas, then the unexplored and unreachable region in the world, to the mind and might of American explorers.

Poe’s novella seems to champion Reynolds’s notion of expedition when the story entices the reader with its southward journey, filled with new sights and new possibilities for scientific development and commercial prosperity. At the same time, however, Poe counters Reynolds’s rhetoric of unquenchable thirst for new knowledge and unstoppable

58. Reynolds, *Address*, 70.

59. *Ibid.*, 99.

conquest. The novella suggests that whoever confronts the new truth will be either physically subdued or mentally incapacitated. In addition, the most prized unknown seems to lead human explorers not forward but curiously backward, or returning to some kind of origin. Both Bonaparte and Kopley understand this origin as the mother figure, beckoning from the depth of Poe's mourning, longing psyche. In contrast, I interpret *Pym's* bewitching, engulfing origin as one piece of the puzzle to understanding Poe's lifelong exploration of the symmetric relationship of beginning and ending, life and annihilation. Eventually, the notion and nature of Origin will become the centerpiece in Poe's *Eureka*, the author's ultimate plot regarding the fate of the cosmos.

CHAPTER IV

THE BIPARTITE SOUL OF THE SCIENTIST-POET: “THE POWER OF WORDS” AND THE MYSTERY OF CREATION

“The Power of Words” (1845),¹ Poe’s third angelic tale,² presents a flight into knowledge in the ethereal space of afterlife.³ Oinos, a new spirit to the afterlife, is welcomed by Agathos, another spirit, and ushered into a journey of uncovering some of the deepest mysteries of the universe. They converse in the majestic presence of “the continuous golden walls of the universe,” “the loud harmony of the Pleiades,” and the “triplicate and triple-tinted suns” of Orion (M 3:1212). Agathos reveals to Oinos that the universe is an infinite web of interconnected causes and effects. Every single motion influences the rest. While mathematicians on earth have discovered a way to trace back to causes based on their effects, only God knows every cause of every effect at all times. Agathos further enlightens Oinos on the shocking truth of Creation: “the Deity does not create” except “[i]n the beginning *only*” (M 3:1213); every act of creation after the Deity’s very first command can only be understood as “the mediate or indirect” creation (M 3:1213). Oinos seems to comprehend the concept and recalls that on earth people have failed to distinguish between the primary and secondary creation. Shortly before the

1. M 3:1210-17.

2. The other two tales are “The Conversation of Eiros and Charmion” (1839) and “The Colloquy of Monos and Una” (1841).

3. For an insightful discussion of the angelic space and its shared role with the demonic space in Poe’s universe, see William E. Engel’s article, “Fantastic Places, Angelic Spaces,” in *Poe and Place*, ed. Philip Edward Phillips (New York: Palgrave Macmillan, forthcoming).

end of all lives on earth, philosophers have wrongfully labeled “some very successful” examples of secondary creation as “the creation of animalculæ” (M 3:1213).

At the end of the narrative, Agathos discloses to Oinos yet another secret of Creation. Since all “impulses upon the ether” (M 3:1215) create, spoken words also wield the physical power of creation as they ripple and ruffle across the air. To demonstrate, Agathos leads Oinos to a green star, blooming with “brilliant flowers” and erupting with “fierce volcanos” (M 3:1215). When Oinos points out that the flowers resemble “a fairy dream” and the volcanoes wild passions, Agathos corrects him by revealing that this beautiful star was spoken into birth by him three centuries ago “with a few passionate sentences” (M 3:1215) as he was worshiping or imploring his beloved. Agathos then defends vehemently his view that the “brilliant flowers *are* the dearest of all unfulfilled dreams, and its raging volcanoes *are* the passions of the most turbulent and unhallowed of hearts” (M 3:1215).

“The Power of Words” provides a wealth of insight into Poe’s universe building. Among all the stated and implied mechanisms and principles, the physical power of words demonstrated at the end of the tale stands out and continues to evoke debate among critics. For instance, when discussing the significance of the physical power of words in the tale and Poe’s poetics, both Burton R. Pollin and Barbara Cantalupo draw the reader’s attention to Poe’s faith in the power of words expressed in a March 1846 entry of the *Marginalia*. Pollin believes that Agathos’s creation of the star through his words is the “ultimate” example of Poe’s belief in the creative force and “shaping power”

of language.⁴ Cantalupo notes that the physical power of words is a notion that Poe develops throughout his creative career and culminates in the poet's cosmological treatise, *Eureka*.⁵

Critics have also debated on the unresolved nature of the conclusion of the tale. Charles A. Huttar describes Agathos as being “unabashedly satisfied” with his creation, a star born out of his “unhallowed” heart.⁶ Huttar thus argues that the story is unresolved because it does not “reconcile” Agathos's unholy act with the meaning of his name, “Good.”⁷ In contrast, Cantalupo contends that the tale ends with Agathos's “pain,” “grief,” and the hidden desire to be reunited with everything else in the universe through total annihilation.⁸ Therefore, the story ends “without resolution” because it demonstrates “the disturbing effect” of the creative power of words by leaving Agathos in anguish and Oinos in bewilderment.⁹ Like Cantalupo, who observes a sense of separation at the sight of Agathos's creation, John Michael maintains that when Agathos speaks his passions and dreams into a star, he has objectified his “past self ... through speech.”¹⁰ In addition,

4. Burton R. Pollin, *Poe, Creator of Words* (Bronxville, NY: Nicholas T. Smith, 1980), 7.

5. Barbara Cantalupo, “Preludes to *Eureka*: Poe's ‘Absolute Reciprocity’ of Adaptation in ‘Shadow’ and ‘The Power of Words’,” *Poe Studies* 31, nos. 1-2 (1998): 17-21.

6. Huttar, Charles A., “Poe's Angels,” in *Essays for Richard Ellmann*, ed. Susan Dick et al. (Montreal: McGill-Queens University Press, 1989), 83.

7. Ibid.

8. Cantalupo, “Preludes to *Eureka*,” 19.

9. Ibid., 20.

10. John Michael, “Narration and Reflection: The Search for Grounds in Poe's ‘The Power of Words’ and ‘The Domain of Arnheim’,” *Arizona Quarterly* 45, no. 3 (1989): 8, Project MUSE (edspmu.S1558959589300004).

when Agathos revisits the star and remembers its creation, his present self watches and revisits his past self. In other words, Michael suggests that we divide our subjectivity through narration and reflection, and we realize that the “split” self is the essence of our reality.¹¹

Other critics have investigated beyond the concluding scene of the tale. In his classic essay, Allen Tate proposes that Poe’s idea of an interconnected universe and retrogradation resembles that of Pascal’s expressed in his *Pensées*.¹² Paul Eakin discusses the paradox of knowledge portrayed in “The Power of Words” as a way to understand the mode of endings in Poe’s artistic creation. Knowledge in “The Power of Words” is depicted as “at once desirable and deadly”;¹³ it is an end both pursued and dreaded. Similarly, for Poe the artist, a work is composed with its ending in mind, but when the work reaches its end and the “final knowledge,” its life of pursuit ceases.¹⁴ Besides exploring Carlyle’s influence on “The Power of Words,” Stuart Levine and Susan F. Levine also maintain that the story’s conclusion reflects the Romantic idea that symbols are not representations of the substance but the substance itself.¹⁵

11. *Ibid.*, 5.

12. Allen Tate, “The Angelic Imagination: Poe and the Power of Words,” *Kenyon Review* 14, no. 3 (1952): 470-71, <http://www.jstor.org/stable/4333351>.

13. Paul John Eakin, “Poe’s Sense of an Ending,” *American Literature: A Journal of Literary History, Criticism, and Bibliography* 45, no. 1 (1973): 4, <http://www.jstor.org/stable/2924535>.

14. *Ibid.*

15. Stuart Levine and Susan F. Levine, eds., *The Short Fiction of Edgar Allan Poe* (Indianapolis, IN: Bobbs-Merrill, 1976), 107-8.

While existing scholarship provides valuable insights into Poe's notion of knowledge and the power of language, it largely overlooks the scientific context that informs, nourishes, and stimulates "The Power of Words." Early critics even display a skeptical attitude toward the scientific engagement of the tale. In his 1917 article, Herbert Edward Mierow, for example, describes the tale as "a particular illustration of a general idea" of the physical power of words.¹⁶ Mierow believes that the tale exercises "pseudo-scientific reasoning" and its claims bear little scientific base.¹⁷ Allen Tate seems to suggest that the tale's scientific allusions, especially that of the mathematicians and of the successful experiments of creating organic life, might be Poe's "invention" since he is "capable of faking his science."¹⁸ Although he values Poe's later *Eureka* as Poe's "one great idea," Tate verges on dismissing the potential scientific involvement of "The Power of Words," claiming that the appearance of Poe's "wildest inventions" is just the trajectory to *Eureka*.¹⁹ Taylor Stoehr, while appreciating the tale's artistic and philosophical power, remains reserved about "how seriously" Poe himself believes in "the physical nature of words" propounded by Agathos.²⁰

In contrast, a few more recent studies consider the seriousness of the tale's claims and their possible scientific root. For instance, J. Gerald Kennedy states that Poe's tale

16. Herbert Edward Mierow, "Stephen Phillips and Edgar Allan Poe," *Modern Language Notes* 32, no. 8 (1917): 500, <http://www.jstor.org/stable/2915565>.

17. *Ibid.*, 501.

18. Tate, "The Angelic Imagination," 472.

19. *Ibid.*

20. Taylor Stoehr, "'Unspeakable Horror' in Poe," *South Atlantic Quarterly* 78 (summer 1979): 317-32.

shows “an apparently serious notion of both the survival of the soul and the creative power of language.”²¹ To date, Terence Whalen has conducted the fullest investigation on the scientific context for Poe’s tale.²² Whalen argues for a potential connection between Poe and Charles Babbage, the illustrious English mathematician, scientist, and engineer. In his ninth chapter of *The Ninth Bridgewater Treatise: A Fragment*, “On the Permanent Impression of Our Words and Actions on the Globe We Inhabit,” Babbage states that every word and action create an impression that will be kept by the material universe forever. Babbage also maintains that through mathematical analyses these impressions can be traced to their causes by a mind superior to that of humans. After demonstrating Poe’s interest in the Bridgewater treatises in general and his interest in Babbage in particular, Whalen argues that Poe, during his composition of the angelic tale in 1845, “possessed first-hand knowledge of” this particular chapter by Babbage.²³ According to Whalen, Babbage’s treatise, especially the chapter on the permanent effects of words, is “the likely inspiration for” Poe’s tale.²⁴

Whalen’s study is tremendously valuable because it offers a potential answer to Poe’s source for the notion of understanding the universe mathematically and the idea of the material power of words. This is a piece of puzzle in Poe’s tale that neither Thomas

21. J. Gerald Kennedy, *Poe, Death, and the Life of Writing* (New Haven: Yale University Press, 1987), 205.

22. Terence Whalen, *Edgar Allan Poe and the Masses: The Political Economy of Literature in Antebellum America* (Princeton, NJ: Princeton University Press, 1999). See esp. chap. 9.

23. *Ibid.*, 257.

24. *Ibid.*, 250.

Ollive Mabbott nor Harold Beaver, two of the most knowledgeable annotators and scholars of Poe, has shined lights on. However, Whalen's discussion does not consider the astronomical allusions in Poe's tale.²⁵ These allusions reflect the tale's engagement with the budding controversies surrounding the Nebular Hypothesis, a theory first suggested by William Herschel and then developed by Simon-Pierre Laplace into a conjecture of the origin and operation of the solar system. It is noteworthy that Charles Babbage, when discussing the concept of Time in his treatise, also acknowledges the intellectual influence of the Nebular Hypothesis.²⁶

Therefore, this chapter situates Poe's tale in the emerging controversies rooted in the scientific findings of Poe's day, such as the Nebular Hypothesis as well as its implications for God's intervention and for organic creation. I argue that Poe's tale dramatizes the intellectual impact of these discussions to help him design an almost full-scale universe. In this universe, the inquisitive eye and soul are rewarded with Happiness, scientific discoveries are compatible with God's sovereignty, and creation is not only a mechanical process but also a poetic act. This chapter discusses the journey toward angelic knowledge by its progress: it begins with the astronomer's eye, continues with the mathematician's mind, but ends with the poet's loss.

25. As early as 1951, Carroll Dee Laverty has called attention to the "subordinate but essential" role of astronomy in Poe's "The Power of Words." "Science and Pseudo-Science in Writings of Edgar Allan Poe" (PhD diss., Duke University, 1951), 136, <http://www.eapoe.org/PAPERS/misc1921/cdl51c00.htm>.

26. Charles Babbage, *The Ninth Bridgewater Treatise: A Fragment*, 2nd ed. (London: J. Murray, 1838), 89-90, <https://babel.hathitrust.org/cgi/pt?id=hvd.ah5b8w;view=1up;seq=1>.

1. The Astronomer's Eye

Oinos's journey toward angelic knowledge, guided by Agathos, begins with the astronomer's eye. Awakened into his afterlife, Agathos encourages Oinos to commence the pursuit of knowledge immediately, since even in this angelic space knowledge is not "a thing or intuition" (M 3:1212), but needs to be sought actively by asking and learning. Agathos reveals further that "happiness" lies not in knowledge but in the quest for knowledge (M 3:1212). Therefore, God, or "The Most High," is "The Most Happy" (M 3:1212). In addition, this happiness is endless because matter in the universe, i.e. the subject of knowing, is endless.²⁷ To enlighten Oinos on the infinite amount of knowledge in the boundless universe, Agathos beckons:

Look down into the abysmal distances! — attempt to force the gaze down the multitudinous vistas of the stars, as we sweep slowly through them thus — and thus — and thus! Even the spiritual vision, is it not at all points arrested by the continuous golden walls of the universe? — the walls of the myriads of the shining bodies that mere number has appeared to blend into unity? (M 3:1212)

Intriguingly, the act of visual "sweeping" among the stars is often associated with the process of using a telescope to observe the night sky. For example, in an 1836 article originally published by the *Westminster Review*, John Pringle Nichol, Regius Professor of Astronomy at the University of Glasgow and famous science popularizer, comments in a

²⁷. Poe changes his mind in *Eureka*, which depicts a universe with finite amount of matter.

footnote that “the range swept by our telescopes may only be a small nook or corner of peopled space.”²⁸

More specifically, the act of “sweeping” recalls the formidable power of William Herschel’s telescopes. Initially a prospering organist, William Herschel became obsessed with astronomy and began his career as an amateur astronomer by making a series of telescopes. Starting with the one built in 1774 with 5.5-foot focal length,²⁹ Herschel continued to produce a 20-foot telescope in 1783³⁰ and the astounding 40-foot in 1789,³¹ to name only two. These telescopes enabled him to see farther and more clearly than even the professionals of his day. Armed with incomparable vision, Herschel scanned the night sky and discovered new double stars, the planet of Uranus, and over 400 nebulae and star clusters, thus securing him a seat among the most renowned professional astronomers. Nichol, in his *Views of the Architecture of the Heavens* (1837), a book written for lay readers on the recent developments in astronomy, describes how Herschel is dazzled by the radiant Sirius when conducting “a considerable sweep with” his telescope.³² In a word, Agathos’s use of “sweep[ing]” denotes the “space-penetrating powers” of the eye

28. John Pringle Nichol, “State of Discovery and Speculation Concerning the Nebulae,” *London and Westminster Review*, April and July 1836, 218, <https://babel.hathitrust.org/cgi/pt?id=inu.30000093243669;view=1up;seq=168>.

29. Michael Hoskin, *Discoverers of the Universe: William and Caroline Herschel* (Princeton: Princeton University Press, 2011), 34-35.

30. *Ibid.*, 92.

31. *Ibid.*, 124.

32. John Pringle Nichol, *Views of the Architecture of the Heavens: In a Series of Letters to a Lady* (Edinburgh: William Tait, 1837; reproduction by Cambridge: Cambridge University Press, 2009), 36. Page references are to the 2009 edition.

of the astronomers, especially that of William Herschel.³³ By employing astronomical vision to describe angelic vision, the tale shows Poe's familiarity with the contemporary account of astronomical developments.

More importantly, in Poe's angelic space, the limit of the astronomer's eye has become the blessing of the astronomer's soul. The tale grants freedom and power to both earthly and angelic surveyors of the stars when it depicts angelic vision as sweeping the heavens like that of astronomers. At the same time, however, the story also confines the angels' ability to uncover celestial mysteries within "the continuous golden walls of the universe" (M 3:1212). According to Agathos, these boundless walls signify the "infinity of matter," created to "afford infinite springs" for the ever-thirsting, knowledge-seeking soul (M 3:1212). Since the soul's annihilation comes when its thirst for knowledge is "quench[ed]" (M 3:1212), one can infer that the infinite universe functions as the life spring of the souls. Therefore, while "The Conversation of Eiros and Charmion" first exposes the limits of astronomical knowledge and then offers the ultimate ridicule of the limits by conjuring the devouring fires of a colliding comet,³⁴ "The Power of Words" exhibits a more sympathetic view on the inadequate exploring eye. For astronomers on earth, there is life beyond the mundane confines; for angels, there is the promise of happiness even in the limitation of their knowledge-seeking eyes.

33. Ibid., 40.

34. M 2:451-62.

2. A Flight into the Nebular Hypothesis

In a language that runs like a melody and colors like a paintbrush, Agathos invites Oinos to accelerate the journey of knowing from a visual sweeping into a flight among the celestial bodies:

Question me then, my Oinos, freely and without fear. Come! we will leave to the left the loud harmony of the Pleiades, and swoop outward from the throne into the starry meadows beyond Orion, where, for pansies and violets, and heart's-ease, are the beds of the triplicate and triple-tinted suns. (M 3:1212)

Agathos's portrayal of "the loud harmony of the Pleiades" alludes to a long philosophical, literary tradition of perceiving the movements of celestial bodies in terms of musical notes and proportions.³⁵ In a more general cultural context of Poe's time, the Pleiades and Orion exemplify the sovereignty of God in the Scripture. For instance, God's strength "maketh Arcturus, Orion, and Pleiades, and the chambers of the south."³⁶ God also questions Job: "Canst thou bind the sweet influences of Pleiades, or loose the bands of Orion?"³⁷ In a word, the Pleiades and Orion attest to God's almighty power of creating and maintaining the cosmic order.

35. This allusion has already been pointed out by Stuart Levine and Susan F. Levine, in *The Short Fiction of Edgar Allan Poe*, 145. For a discussion on how Kepler's view of celestial music differs from the tradition of Plato and Pythagoras, see D. P. Walker, "Kepler's Celestial Music," *Journal of the Warburg and Courtauld Institutes* 30 (1967): 228-50, <http://www.jstor.org/stable/750744>.

36. Job 9.1 (KJV).

37. Job 38:31 (KJV).

In the poetic world of Poe, Agathos's depiction of the Pleiades and Orion recalls the ethereal beauty of the starry world of Al Araaf in Poe's early epic-inspired poem, where pleasing music, enchanting flowers, sweet scents, and golden starlight abound. In addition, the "meadows beyond Orion" (M 3:1212) echo the beautiful meadow of Limbo in Circle One of Dante's *Inferno*, where philosophers, heroes, and scientists amble, meditate, and converse with one another. Dante's in-between space in the afterlife builds upon the tradition of the underworld in Virgil's *Aeneid* and Homer's *Odyssey*. By situating the mystic meadows of the epic tradition among stars that burn with intricate colors, Poe intensifies the poetic charm of the afterlife.

The depiction of the Pleiades and Orion contributes to Poe's sublime beauty of the celestial world. However, in the investigating eye of the nineteenth-century astronomer, these starry bodies, especially Orion, bore different significance.

After observing and cataloguing numerous nebulae, William Herschel reported that nebulae appeared in different stages, from "perfect diffusion" to increasingly distinct and bright "spots," which eventually seemed to congregate into larger "centres of condensation."³⁸ Herschel thus inferred that the initial fluid-like stage of a nebula, the one in the Sword of Orion, for instance, could be transformed into "organized stars" via the

38. Nichol, "State of Discovery," 220.

influence of gravity.³⁹ In other words, the nebulous portion of Orion could be the birthplace of future stars.⁴⁰

Drawing astronomical support from William Herschel, Pierre-Simon Laplace, the illustrious French mathematician and astronomer, elaborated on his own hypothesis of the origin of the Solar System.⁴¹ In this expanded hypothesis, Laplace advances that the Solar System originated from an immense, hot, spinning, and condensing nebulous sphere that

39. *Ibid.*, 222.

40. Herschel did not always believe in the notion of a completely diffused nebula. At the early stage of his astronomical career, Herschel identified the nebula in Orion's Sword as the example of pure nebulosity without stars. However, in 1785, he rejected the existence of "true nebulosity" (Hoskin 100) but argued that with better telescopes astronomers could in the future resolve the appearance of true nebulosity into distant clusters of stars (Hoskin 101-2). November 13, 1790, nevertheless, marked the day when Herschel revived his early belief. During that evening, Herschel observed a nebulous atmosphere with a star at the center, using his 20-foot telescope. He then believed that he had found the new proof of how true nebulosity, under the influence of gravity, can form a new star (Hoskin 127-8). For primary source, see William Herschel's 1791 paper, "On Nebulous Stars, Properly So Called," published in the *Philosophical Transactions of the Royal Society of London*. In this paper, Herschel reports that the star he observed in November 1790 was "surrounded with a faintly luminous atmosphere, of a considerable extent" (71); the view stimulated him to contemplate "the construction of the heavens" (71). Herschel then provides a list of stars and their surrounding "shining matter" (84) observed by him throughout the years, exhibiting different stages of development. The paper concludes that the shining matter can "produce a star by its condensation" (86). In his 1811 paper, "Astronomical Observations Relating to the Construction of the Heavens, Arranged for the Purpose of a Critical Examination, the Result of Which Appears to Throw Some New Light upon the Organization of the Celestial Bodies," published in the *Philosophical Transactions of the Royal Society of London*, Herschel restates his belief in the birth of stars from nebulous fluids.

41. From 1796 to 1824, Laplace presented five different versions of his hypothesis in the five editions of *The System of the World*. Silvan S. Schweber believes that the developments in the fourth and fifth versions of Laplace's hypothesis "were the results of Laplace having become acquainted with William Herschel's impressive observations on nebulae and star clusters," especially provided in Herschel's 1811 paper, "Astronomical Observations Relating to the Construction of the Heavens." "Auguste Comte and the Nebular Hypothesis," in *In the Presence of the Past: Essays in Honor of Frank Manuel*, ed. Richard T. Bienvendu and Mordechai Feingold (Dordrecht: Kluwer Academic Publishers, 1991), 141.

used to be the Sun. As the sphere rotated, it cooled, accelerated, and left behind rings of matter, which eventually aggregated and formed into planets, asteroids, and moons.⁴²

If Herschel's projection offered the general conception of how celestial bodies could materialize, Laplace's Nebular Hypothesis (a term coined by William Whewell and popularized by Nichol) was a particular application of Herschel's idea on our solar system.⁴³ While today's astronomy might not associate William Herschel readily with Laplace's Nebular Hypothesis, the nineteenth century found that the two walked hand in hand: "Herschel's nebular hypothesis was widely discussed as a complement to Laplace's."⁴⁴ For instance, in his article introducing the findings regarding the nebulae to the general readers, Nichol explains that William Herschel's conclusion helped "ground" Laplace's hypothesis.⁴⁵ In sum, for both the scientific and the lay community in the nineteenth century, Herschel's nebulosity in Orion was intimately associated with Laplace's Nebular Hypothesis.

42. The summary of the theory is based on Laplace's 1824 edition of *Exposition du systeme du monde*, which offers the fifth and much more elaborate version of the hypothesis. The blueprint of Laplace's theory was sketched in the first edition of the work, published in 1796, in an attempt to explain the regularity and stability of the motions of the planets and the satellites in our Solar System. The second edition (1799) and the third edition (1808) offer similar accounts, with the addition of how impossible it was for the Solar System to be generated by chance (Jaki 6). In the fourth edition (1813), Laplace suggests that there are two kinds of nebulosity, one forms suns and planets and the other comets (Jaki 8). He also attempts to explain the source of the original rotation of the planets (Jaki 7). For a detailed study of Laplace's five versions of the nebular cosmogony, developed between 1796 and 1824, see Stanley L. Jaki, "The Five Forms of Laplace's Cosmogony," *American Journal of Physics* 44, no. 1 (1976): 4-11, doi: 10.1119/1.10539.

43. Laplace's hypothesis was "a special case of" Herschel's (Schweber, "Auguste Comte," 143).

44. Stephen G. Brush, "The Nebular Hypothesis and the Evolutionary Worldview," *History of Science* 25, no. 3 (1987): 245-78.

45. Nichol, "State of Discovery," 222.

Poe was already aware of the Nebular Hypothesis, at least in 1841. In his review of Thomas Babington Macaulay, published in the June 1841 issue of the *Graham's Magazine*, Poe mentions “the modern established theory of the nebular cosmogony” (ER 324) and offers a solid summary in the footnote. In addition, it would seem that Poe’s knowledge of the Nebular Hypothesis at this time of his life came mainly from Nichol, the successful nineteenth-century author for popular scientific writing.⁴⁶ Indeed, on various occasions, Poe mentions or alludes to Nichol in relation to the Nebular Hypothesis. For instance, “Orion” and “Dr. Nichol” form part of the chain of thought as Poe’s detective protagonist of “The Murders in the Rue Morgue” (1841) explains how he seems to have read the mind of his partner (M 2:535).⁴⁷ Poe again refers to “the nebular star-dust of Nichols [*sic*]” (P 3:154) in his June 1845 review of Taylor Lewis’s *Plato Contra Atheos*.

It is also noteworthy that the year of 1845 also witnessed Poe’s intensified interest in the Nebular Hypothesis and his effort to incorporate the theory into his project of cosmos building. When “Mesmeric Revelation” (1844) was included in Poe’s 1845 *Tales*, it included two additional paragraphs discussing whether ether, i.e. the cosmic medium

46. Besides penning an article for the *Westminster Review* to explain the discoveries and ideas concerning nebulae, Nichol also devoted one of the letters on the Nebular Hypothesis in his *Views of the Architecture of the Heavens*, the popular book of letters for lay readers interested in contemporary astronomy. The article for the *Westminster Review* was reprinted by a New York publisher in 1836 and Nichol’s book also saw its first American edition in 1840 through the New York based A. H. Chapin & Co. (L 146n163). In other words, both forms would have been available to Poe.

47. For a thought-provoking discussion of Poe, Laplace, and the evolutionary thoughts, see Lawrence Frank, “‘The Murders in the Rue Morgue’: Edgar Allan Poe’s Evolutionary Reverie,” *Nineteenth-Century Literature* 50, no. 2 (1995): 168-88. <http://www.jstor.org/stable/2933690>. My chapter argues that Poe’s engagement with the astronomical discoveries deepens as he builds his own cosmological order in “The Power of Words.”

for celestial bodies, is responsible for decelerating the revolving motion of comets around the Sun (M 3:1041n11). Interestingly, the existence of this “resisting ether” is presented by Nichol’s article, “State of Discovery and Speculation Concerning the Nebulae,” as one of the two pieces of evidence supporting the Nebular Hypothesis.⁴⁸ Therefore, the two new passages in “Mesmeric Revelation” suggest that Poe was learning more about the Nebular Hypothesis at the time of revision. Since the 1845 *Tales* was already put “in press” (PL 520) by Wiley & Putnam in March, one can infer that Poe must have finished revising the “Mesmeric Revelation” early that year. Considering that “The Power of Words” was also likely composed in early 1845 for it to have been submitted in April and published in May for the June issue of the *Democratic Review* (M 3:1211), it is also likely that Poe was revising “Mesmeric Revelation” and composing “The Power of Words” almost simultaneously, and that Nichol’s article may have informed both pieces.

In other words, it is likely through Nichol’s writings that Poe became familiar with both the famous Nebular Hypothesis and how the nebular in Orion signified the inception of the theory. As a result, when “The Power of Words,” a tale of pursuing celestial knowledge, proposes a flight on angelic wings toward “the starry meadows of Orion” (M 3:1212), it signals to the reader that the secret of Creation awaits.

48. Nichol, “State of Discovery,” 223. Although the resisting ether is also discussed in John Herschel’s *A Treatise on Astronomy* (291) and in Nichol’s *Views of the Architecture of the Heavens* (155-56), a comparison of the texts indicates that Poe’s passage in “Mesmeric Revelation” is closer in content to Nichol’s article, “State of Discovery and Speculation Concerning the Nebulae.” Poe would reject the notion of physical or material ether in *Eureka*.

More remarkably, however, the invitation to Orion also recalls the debates generated by the theological implications of the Nebular Hypothesis in the 1830s and 1840s. Some were puzzled or disturbed by the seeming absence of God in the creation and operation of the universe; some challenged the scientific or logical validity of the theory. For instance, Thomas Chalmers, in his Bridgewater Treatise, *The Adaptation of External Nature to the Moral and Intellectual Constitution of Man* (1833), contends that for a claim about the planetary creation as bold as this, we need more specific evidence to show that the theory fits the Natural Laws of God.⁴⁹ William Whewell, another Bridgewater Treatise writer who also happened to coin the term, “Nebular Hypothesis” in his *Astronomy and General Physics: Considered with Reference to Natural Theology* (1833), was also reserved about the scientific soundness of Laplace’s conjecture. In addition, Whewell was eager to announce that even if the hypothesis turned out to be valid, it would not necessarily undermine one’s belief in “the intervention of intelligence and design.”⁵⁰

This kind of anxiety is dramatized by the exchange between Oinos and Agathos. Immediately after Agathos’s invitation to the Orion, Oinos beseeches Agathos to elaborate on the truth of Creation, which is suggested but remains elusive to the newcomer’s mind: “I understood not what you hinted to me, just now, of the modes or of

49. Thomas Chalmers, *The Adaptation of External Nature to the Moral and Intellectual Constitution of Man* (London: William Pickering, 1833), https://books.google.com/books?id=wx0HAAAAQAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false.

50. William Whewell, *Astronomy and General Physics Considered with Reference to Natural Theology* (London: William Pickering, 1833), 184, <https://archive.org/details/astronogenphysics00whewuoft>.

the methods of what, during mortality, we were accustomed to call Creation. Do you mean to say that the Creator is not God?” (M 3:1212-13). Agathos replies calmly: “I mean to say that the Deity does not create” except “[i]n the beginning *only*” (M 3:1213). To Agathos, all the new things in the universe are only the “mediate and indirect” (M 3:1213) consequences of the first act of creation. As with the public reception of the Nebular Hypothesis, Oinos is clearly shocked by the revelation that the creation and mechanism of the universe do not require the divine finger at every step of the changes and developments. Echoing the earthly challengers of the audacious theory, Oinos comments that the notion “would be considered heretical in the extreme” (M 3:1213) among humans. Oinos’s skepticism is met by Agathos’s gentle rectification: “Among angels, my Oinos, it is seen to be simply true” (M 3:1213).

Here, Poe’s Agathos seems to be in alignment with the position of both Nichol and John Pye Smith, who advocated for the compatibility between scientific discoveries and the acknowledgement of God’s power. Therefore, the flight to the beautiful Orion not only prepares readers to participate in the scientific and theological debates regarding the secret of Creation, but it also entices them to renew their earthly sensibility and perceive sublimity in one of the boldest scientific developments of their day.⁵¹

51. Poe’s support of the Nebular Hypothesis persisted even when it was challenged by new telescopic observations later. In his cosmological and poetic treatise, *Eureka*, Poe vehemently and convincingly defended the hypothesis. Built upon the Nebular Hypothesis and other scientific notions, *Eureka* propounds a theory of the Origin and Ending of the Universe that was unorthodox to many (if not most) Christians. For example, Marie Louise Shew, nurse and friend to Virginia and Poe, distanced herself from Poe in 1848 after being warned by her minister, Reverend J. H. Hopkins, on the questionable implications of *Eureka*. See Miller, *Building Poe Biography*, 122-125, 127.

3. The Mathematician's Mind and the Lab of Organic Creation

The controversies surrounding the Nebular Hypothesis are not limited to the creation of celestial bodies or our solar system. They also involve the belief in organic creation. Unaware of the consequence, William Herschel compared the collection of celestial bodies in their different developing phases to that of plants in their different growing stages in a garden.⁵² Herschel believes that when we “witness the germination, blooming, foliage, fecundity, fading, withering, and corrupting of a plant,”⁵³ we can understand the views in the heavens where celestial bodies also exhibit varying stages of changes. While Herschel only intended to employ biology to illustrate astronomy, his comparison was interpreted as being “analogous to theories of biological evolution.”⁵⁴ In other words, Herschel's idea was interpreted to mean that the rules of creating organic beings resemble or accord with the rules of creating celestial bodies. Nichol, for example, argues that both the mechanism for “the birth, magnitude, and duration of one blade of grass” and the rules for the stellar births within the nebulae belong to the same, larger, “real system of things.”⁵⁵

Poe seems to have absorbed the unified idea of organic and celestial creation calmly by downplaying the controversy around the reports of “the creation of

52. For a fuller discussion of Herschel's role in the analogy between astronomy and biology, see Brush, “Nebular Hypothesis,” 251-53.

53. William Herschel, “Catalogue of a Second Thousand of New Nebulae and Clusters of Stars; With a Few Introductory Remarks on the Construction of the Heavens,” *Philosophical Transactions of the Royal Society of London* 79 (1789): 226, <http://www.jstor.org/stable/106695>.

54. Brush, “Nebular Hypothesis,” 250.

55. Nichol, “State of Discovery,” 222.

animalculæ” (M 3:1213). On hearing from Agathos that all acts of creation, except the very first one, are in fact “mediate or indirect” instances of creation, Oinos seems to understand the concept and remembers that before the annihilation of Earth, some scientists had confused secondary creation with primary creation:

I [Oinos] can comprehend you thus far — that certain operations of what we term Nature, or the natural laws, will, under certain conditions, give rise to that which has all the *appearance* of creation. Shortly before the final overthrow of the earth, there were, I well remember, many very successful experiments in what some philosophers were weak enough to denominate the creation of animalculæ. (M 3:1213)

These “many very successful experiments” likely allude to a series of experiments, some factual, others fictional, conducted in the 1830s and 1840s, allegedly showing organic life coming into existence in labs.⁵⁶ Before the end of 1836, Andrew Crosse, an amateur English scientist, discovered by accident that mites were appearing out of his lab as he attempted to create crystallization of silica using electricity and a chemical solution. On December 31, 1836, without Crosse’s consent, the *Somerset County Gazette*, a local English paper, spread the news, which was then quickly circulated by other popular papers.⁵⁷ The birth of mites was not taken too seriously by the

56. Scholars have agreed that the experiments here refer to those conducted by Andrew Crosse (see M 3:1216n9 and Levine and Levine, *Short Fiction of Edgar Allan Poe*, 146n4). My account of the experiments relies mostly on James A. Secord, “Extraordinary Experiment: Electricity and the Creation of Life in Victorian England,” in *The Uses of Experiment: Studies in the Natural Sciences*, ed. David Gooding et al. (Cambridge: Cambridge University Press, 1989), 337-83.

57. Secord, “Extraordinary Experiment,” 346.

scientific community because Crosse's lab environment was less than airtight. However, in February 1837, Michael Faraday, the respected expert in the electro-magnetic field was reported to have replicated Crosse's experiments successfully; the report was, in fact, false, and Faraday's effort of clarification proved in vain.⁵⁸ Consequently, another sensation was diffused by the popular papers, this time carrying more credibility and significance because of the name of Faraday.⁵⁹

The possibility of humans creating organic life provoked contrasting responses. Some believed that these kinds of experiments were too distasteful for serious scientific pursuit. Because of the theological implications, Crosse and William Henry Weekes, another scientist who repeated the experiment successfully in 1841, even received threats of "violence."⁶⁰ In contrast, others "saw no threat" in new life in the lab, "but rather the

58. *Ibid.*, 351. See also Oliver Stallybrass, "How Faraday 'Produced Living Animalculae': Andrew Crosse and the Story of a Myth," *Proceedings of the Royal Institution of Great Britain* 41, no. 192 (1967): 597-619.

59. Mabbott identifies Poe's source for these experiments as an article on Egypt published in the July 1841 issue of the *Westminster Review*, which Poe also used for "Some Words with a Mummy" (M 3:1216-1217n9). However, Poe's curious use of the "animalculae" in "The Power of Words" suggests that the *Westminster Review* article might not be the only source for Poe's allusion to Andrew Crosse and the creation of life out of lab. The word, "animalculae," appeared three times in Poe's works before "The Power of Words." The first time was in Poe's "The Island of the Fay" (1841), meaning microscopic creatures in the crystals. The second time was in Poe's Feb. 1842 review of Dickens's *Barnaby Rudge*, published by *Graham's Magazine*, and Poe used the word (ER 225) in a diminutive sense to describe unworthy literary critics. The third time the word was used in a similar context, in his letter, dated 18 Feb. 1844, to George Lippard: "you should regard small animosities—the animosities of small men—of the literary animalculae (who have their uses, beyond doubt)—as so many tokens of your ascent—or, rather as so many stepping stones to your ambition" (O 1:423).

However, in "The Power of Words," "animalculae" means none of the above, but recalls a description associated with Faraday, when he was falsely believed to have replicated Crosse's experiments successfully in 1837. One example of this kind of report is documented in the February 27, 1837 issue of *The Patriot*, in which the reporter announces that Faraday had "produced living animalculae" (qtd. in Stallybrass, "How Faraday," 610). Since the 1841 *Westminster Review* article does not mention "animalculae" when alluding to Crosse, I argue that Poe had read reports about Crosse and Faraday in the 1830s and was perhaps reminded by the 1841 article of those experiments; Poe was even more attentive to scientific reports than he had been given credit for.

60. Second, "Extraordinary Experiment," 371.

promise of an experiment basis for a new cosmology based on progress, evolution and natural law.”⁶¹ In a word, Crosse’s (and Weeke’s) experiments extended or intensified the possibility suggested by the Nebular Hypothesis: What is the mechanism of our universe? How were the universe and life originated? What role does God play, if any, in the creation and operation of the universe?

Decidedly, Poe’s Agathos is little disturbed by Oinos’s report of “the very many successful experiments” of organic life. Agathos acknowledges that they are creation, but only of the “secondary” nature. In other words, Agathos’s response suggests a compatible relationship between Deity and natural law, Devine power and human engineer.⁶²

61. Ibid.

62. Agathos’s attitude is not unlike that of *Vestiges of the Natural History of Creation* (1844), the stirring Victorian bestseller whose authorship was not disclosed officially until 1884 (Secord, Introduction to *Vestiges*, xviii). Published first in 1844 London, Robert Chambers’s book became the new agent responsible for the endorsement and revival of the story of Crosse’s experiments.

While Poe was working on “The Power of Words” in early 1845, the first American edition of *Vestiges* was published by Wiley & Putnam in January 1845 (“New Works Published in the United States During the Month of January” 294), followed by at least two more editions within the first half of the year. Despite the indifference or dismissal of most of the scientific community toward Crosse’s experiment, Chambers described the experiment favorably in the context of Nebular Hypothesis, launching a renewed wave of debates on cosmogony and evolution.

Even if Poe did not read a copy of Chambers’s book when he was writing “The Power of Words,” it is possible that he knew about the new association between Nebular Hypothesis and Crosse’s alleged creation of life. At the least, Poe’s “The Power of Words” was harnessing the tension and power of a developing controversy in the realms of natural theology and natural philosophy. Interestingly, years later, Poe’s own *Eureka* would be compared to *Vestiges* by reviewers. Poe addressed the issue in a letter to George E. Isbell, dated February 29, 1848, that he has “not yet seen” the book, and “it is always unsafe and unwise to form opinions of books from reviews of them. The extracts of the work which have fallen in my way, abound in inaccuracies of fact:—still these may not materially affect the general argument” (O 2:658-659). I agree with the editors’ note to the letter that it is “difficult to believe that Poe would not have made even the slight effort needed to locate a copy of this prominent book, especially one which dealt with a subject clearly of considerable interest to him. Although it is possible that he was familiar with the book only from reviews, as he suggests, Poe’s denial has not been entirely convincing to readers and scholars” (O 2:660). Recently in his essay, “*Eureka: A Prose Poem—Cosmology*,” Robert J. Scholnick maintains that Chambers’s writings and “the politics of science and religion” provoked by these writings informed Poe to “think through the most basic questions about the very origins and destiny of the cosmos” (86).

Unlike many philosophers and scientists on earth, Agathos does not consider the lab report of organic creation blasphemous, since he believes that all creations we witness or engineer are merely “indirect” or “secondary” creations. In other words, God will always remain the primary author of every creation, despite not having participated directly in those actions. The understanding of this concept is determined by one’s capacity to perceive the universe as an interconnected web of causes and consequences. Mathematicians can trace back from certain results to corresponding causes, but only God can know all the causes at all times. Although Whalen makes a great contribution to this discussion by offering Charles Babbage as the source for Poe’s construct of knowing the universe mathematically, the idea of tracing one’s way back to an understanding of the origin of the universe is found in Nichol’s writings, when he praises Laplace for almost succeeding.⁶³ This mathematical power could also refer to Auguste Comte’s project of having resolved Laplace’s theory mathematically.⁶⁴ Poe here joins in and

63. Nichol, “State of Discovery,” 224.

64. Harold Beaver, when commenting on Poe’s *Eureka*, states that Poe’s knowledge of Auguste Comte’s *Course of Positive Philosophy* come from Sir David Brewster’s review of the work, published in an 1838 issue of the *Edinburgh Review* (Commentary, 409n34). In his extensive review of Comte, Brewster summarizes and reproduces excerpts of Comte’s “mathematical verification” of Laplace’s Nebular Hypothesis (297). [Brewster, David]. “M. Comte’s *Course of Positive Philosophy*.” *Edinburgh Review* 67, no. 136 (Jul. 1838): 271-308. <https://babel.hathitrust.org/cgi/pt?id=uc1.31210019897113;view=1up;seq=273>. Comte states that there is a mathematic correlation between the size of a celestial body and how long it takes to complete one round of rotation. There is also a correlation between “the angular velocity of the Sun’s rotation and the possible extent of his atmosphere” (Brewster 297). Therefore, to prove Laplace’s Hypothesis about how planets and moons were formed out of the spinning solar atmosphere, one must answer how long is the rotation of the Sun when its atmosphere “extended to different planets” (Brewster 299). Specifically, this is what Comte believes should work to prove Laplace’s Hypothesis: “*Supposing the mathematical limit of the solar atmosphere successively extended to the regions where the different planets are now found, the duration of the sun’s rotation was, at each of these epochs, sensibly equal to that of the actual sidereal revolution of the corresponding planet; and the same is true, for each planetary atmosphere in relation to the different satellites*” (Brewster 300). To test his theory, Comte calculated the motions of the earth and the moon, and he found that his theory stood: how long it takes for the moon to rotate almost equals to—“less than the tenth of a day” (Brewster 299)—how long it takes for the earth to rotate had its atmosphere extended to the position of the moon.

acknowledges the work of the mathematician. Therefore, although Whalen's insight is indispensable for understanding Poe's scientific engagement, I argue that Charles Babbage is not the only "likely inspiration for" Poe's tale.⁶⁵ Instead, Poe might have consulted a wide range of sources, including Nichol's article on the Nebulae, David Brewster's review on Comte, and possibly Charles Babbage's treatise.

4. The Poet's Loss

Guided by Agathos, Oinos's journey toward the secret of Creation begins with surveying the myriads of stars like an astronomer and proceeds with thinking like a mathematician who rationalizes (instead of scandalizing) the origin of organic life. So far, the journey seems to embody the power of vision, mind, and reason.

However, the fruit of the journey becomes bitter sweet when Agathos demonstrates to Oinos the materializing power of words by showing the beautiful star he created three centuries ago "with a few passionate sentences" (M 3:1215). Indeed, Agathos's creation—the star boasting lush green contrasted with burning red—illustrates life in its most vibrant yet ungovernable form. The act of creation has brought not only life and beauty, but also sorrow and loss.

At the sight of his creation, Agathos is no longer the confident angelic guide that he was at the beginning of the story. He has lost his composure and is given to emotional outbursts. The wings, once eager to "swoop outward" (M 3:1212) into the constellations, have now lost all boldness and strength and are seen "droop[ing]" (M 3:1215) over the

65. Whalen, *Edgar Allan Poe and the Masses*, 250.

green star.⁶⁶ Perhaps Agathos mourns because the starry offspring reminds him of the dreams and passions separated from him in order to call the star into existence. In other words, Agathos has to be diminished or fragmented for his star. If Poe's "The Power of Words" portrays a curious voyage into ultimate knowledge, the final imagery of an angel confronted and weakened by his creation certainly attests to the complex nature and ambiguous effect of creation.

In a way, the beauty and sorrow created in Agathos's past constantly forecasts a similar future; as long as Agathos (and Oinos) wields the physical power of words, he will be both blessed and bruised by his creation. As a result, the present, for the angels, is forever on the edge of erupting into creative acts. The present is also always caught between the promise of artistic accomplishments and the guarantee of personal anguish. While angels, or the poet of the universe, appear to harness majestic power of control in this web of creation, they, in fact, suffer from the ungovernable and unstoppable toll of creation.

This plight of the poet is captured by one passage from Poe's letter to James R. Lowell, dated July 2, 1844:

You speak of "an estimate of my life" — and, from what I have already said, you will see that I have none to give. I have been too deeply conscious of the

66. Both Carroll Dee Laverty ("Science and Pseudo-Science" 153) and Harold Beaver (Commentary 390n7) identify the green star as a reference to the smaller of two double stars (usually the bigger of the two double stars would be red or yellow, while the smaller of the two green or blue). Laverty also believes that the green color might echo that of a planet-shaped nebula observed by Herschel. However, I argue that more concrete evidence needs to be presented for either interpretation to work, as there is little suggestion of double star or nebula in Poe's depiction of Agathos's star.

mutability and evanescence of temporal things, to give any continuous effort to anything — to be consistent in anything. My life has been *whim*—impulse—passion—a longing for solitude—a scorn of all things present, in an earnest desire for the future. (O 1:450)

Not unlike the angels, Poe found the future desirable, yet fragile and vulnerable, as the future could easily repeat the painful past or relive the contemptible present, due to “the mutability and evanescence of temporal things.” On one hand, Poe eagerly anticipated the future. On the other hand, he betrayed a deep fatigue because of the treacherous uncertainty of future.

One cannot help agreeing with Poe on his deeply conflicting view of the future. What Poe hoped for and labored for in the present (the future recovery of his wife Virginia, the materialization of his magazine the *Stylus*, and the success of the *Broadway Journal* that he eventually owned) all proved in vain, consumed by “the mutability and evanescence of temporal things.” Poe’s wishes and creative endeavors, like Agathos’s star, though full of beauty and wonder, still brought him sorrow and pain.

In addition, Agathos’s star indicates the blurred boundaries between material and spiritual, as well as body and mind. Since the flowers on the star are, in fact, dreams while the volcanoes passions of heart, we can infer that the creations on Agathos’s star are sentient because they belong to part of the creator’s consciousness (an idea described in “The Island of the Fay”). We can also infer that, although the flowers and volcanoes are physically distinct, they actually share an unbreakable connection because they all

originated in the same emotional, mental source — Agathos. Therefore, everything belongs to or attests to a higher being, who diffused himself and therefore exists in and through everything. This idea of separation and loss foreshadows the notion of Creation in *Eureka*. Poe's later treatise would describe the process of creation as that of the One being diffused into Many. Consequently, the original One, or the Creator, would not itself exist except through the existence of its numerous creations. The Life of the created would be the loss of the Creator. Creation and loss go hand in hand.

5. Conclusion

While Charles Babbage's *The Ninth Bridgewater Treatise* might be Poe's direct source for the idea of the physical power of words, it does not represent the full intellectual atmosphere that has nourished Poe's tale. Instead, my investigation has revealed that Poe's tale engages with the scientific and theological implications of the Nebular Hypothesis. Like his scientific or philosophical contemporaries, Poe was engaging with the most intriguing, complex, yet baffling mysteries for humans, i.e., the creation and operation of our universe. The ever-thirsting soul will not stop observing, categorizing, interpreting, innovating, or debating. It will also discover something true for both the scientific and the poetic surveyor, that in happiness and power lie sorrow and loss. Perhaps this is the true beginning of Poe's depiction of the "bipartite soul" of a scientist-poet.

By analyzing how Poe incorporates and responds to the intellectual, theological atmosphere surrounding the Nebular Hypothesis, this chapter indicates several

epistemological and cosmological connections between “The Power of Words” and *Eureka*. Both works enlist the Nebular Hypothesis as part of the theoretical core, which indicates that science plays an increasingly significant role to Poe’s universe. More importantly, they also exalt the pursuit of knowledge as irresistibly fundamental to human existence, present Creation as something gratifying yet destructive, and chart the universe as both mechanic and poetic.

CHAPTER V

**“A RAPID WHIRLING” ON THE TOP OF ÆTNA: POE’S METHODS OF
INCORPORATING SCIENTIFIC SOURCES IN *EUREKA***

On the snowy evening of February 3, 1848, a small audience of fifty to sixty in New York witnessed Edgar Allan Poe’s lecture on cosmology, delivered at the Society Library. Much to Poe’s dissatisfaction, the *New York Tribune* gave only a brief notice of his presentation while issuing “daily reports”¹ from January 27 to February 17 on John Pringle Nichol’s lectures on astronomy at the New York Mercantile Library.² Nichol was a well-respected professor of astronomy from Glasgow, touring in the United States. The *New York Tribune* first printed Nichol’s lectures separately and then in a series “in the weekly supplement of February 19.”³ The lectures eventually became “a separate publication by the firm of Greeley and McElrath.”⁴ Considering the vastly different treatment the two lecturers received, it is not unreasonable to surmise that Poe might have perceived Nichol as a competitor.

After delivering his lecture on the material universe, Poe revised and expanded it into a book, published by Putnam in July 1848, with the title of *Eureka: A Prose Poem*.

1. Frederick W. Conner, “Poe and John Nichol: Notes on a Source of *Eureka*,” in *All These to Teach: Essays in Honor of C. A. Robertson*, ed. Robert A. Bryan, et al. (Gainesville: University of Florida Press, 1965), 199.

2. See Angela G. Ray, *The Lyceum and Public Culture in the Nineteenth-Century United States* (East Lansing: Michigan State University Press, 2005), 7, <http://hdl.handle.net.ezproxy.mtsu.edu/2027/heh.09324.0001.001>. In the nineteenth-century American lyceum tradition, the degree of media coverage indicated both the importance of a lecture topic and the prominence of the lecturer.

3. Conner, “Poe and John Nichol,” 199.

4. *Ibid.*

Fueled by his confidence in and enthusiasm for the value of his findings, Poe had asked Putnam to issue no fewer than fifty thousand copies of his book. However, the publishing house only offered five hundred.⁵ According to Stuart Levine and Susan F. Levine, Poe had been annotating and revising the text since the 1848 Putnam publication, clearly anticipating future editions.⁶

Although the actual composition took only a couple of months, the life of *Eureka* began early in Poe's creative life. As a young poet, Poe already had begun to explore the mysteries of life and death, body and soul, the impending doom and the possibility of afterlife, and enlightenment and annihilation. As Poe aged and matured as an artist, his exploration of the human condition and the universe matured as well, fueled by his interest in scientific discoveries and theories, but also shadowed by his experience with love, death, and loss. In 1847, the year before the publication of *Eureka*, Poe lost his beloved wife, Virginia, after a long battle with tuberculosis. Poe would die less than 12 months later. It is not difficult, therefore, to understand Poe's investment in *Eureka*, "the Essay on the Material and Spiritual Universe." The treatise represents Poe's venture into the grandeur of the Universe, stealing a glimpse at the ultimate unknown that gives, governs, and takes away life. According to Harry Lee Poe, *Eureka*, more than a scientific or aesthetic treatise, embodies Poe's investigation of the "problem of suffering and evil"

5. Harry Lee Poe, *Evermore: Edgar Allan Poe and the Mystery of the Universe* (Waco, TX: Baylor University Press, 2012), 148.

6. Stuart Levine and Susan F. Levine, introduction to *Eureka*, by Edgar Allan Poe (Urbana, IL: University of Illinois Press, 2004), xxxi.

in a world that is also filled with “Beauty and Love.”⁷ What Poe inquires after in *Eureka* is not necessarily a Christian God, but rather a Deity that Poe hopes to understand with all he knows and all he believes in: astronomy, mathematics, Poetry, Beauty, and Knowledge.

In this light, it is not surprising to see *Eureka* open with the piety, assurance, mystery, and exhilaration comparable to the pronouncements of a prophet:

I offer this Book of Truths, not in its character of Truth-Teller, but for the Beauty that abounds in its Truth; constituting it true. To these I present the composition as an Art-Product alone:—let us say as a Romance; or, if I be not urging too lofty a claim, as a Poem.

What I here propound is true:—therefore it cannot die:—or if by any means it be now trodden down so that it die, it will “rise again to the Life Everlasting.” (L 5)

The confidence conveyed in the images and messages above suggest that the speaker is announcing from an unusual height,⁸ a height truly suitable for his subject of cosmic truth and a height necessary for comprehending the nature and secrets of the Universe. Poe’s prophet-like speaker professes a belief in the eternal life of his teachings—the Beauty and Truth of his work will vindicate his efforts, even if the value of the work is rejected by his

7. H. Poe, *Evermore*, 54.

8. Elizabeth Vincelette points out that Poe as narrator of *Eureka* conveys a sense of exaggerated importance and authority, presenting himself as the “last narrator of all his narrators, the ultimate poet-prophet” (40). “Beauty, Truth, and the Word: The Prophecy and Theology in Poe’s *Eureka*,” *Edgar Allan Poe Review* 9, no. 2 (2008): 36-54, <http://www.jstor.org/stable/41506296>.

nineteenth-century reading audience. The slightly indignant, haughty tone is only appropriate for a deep belief in the paramount truth that outlives doubts and denials.

The elevation in the Preface continues, as the first paragraph of the main body of the treatise declares, “I approach the reader with the most solemn—the most comprehensive—the most difficult—the most august” (L 7). This unearthly succession is then followed by the narrator’s plan: “I design to speak of the *Physical, Metaphysical and Mathematical—of the Material and Spiritual Universe:--of its Essence, its Origin, its Creation, its Present Condition and its Destiny*. I shall be so rash, moreover, as to challenge the conclusions, and thus, in effect, to question the sagacity, of many of the greatest and most justly revered of men” (L 7). The intended subject, goal, and effect of *Eureka* evince the speaker’s intellectual and spiritual ambition.

So what exactly does *Eureka* advance concerning the Material and Spiritual Universe? *Eureka* maintains that the Universe consists entirely of Matter and that what we usually perceive as the Spiritual God is, in fact, “Matter in its extreme of Simplicity” (L 22), or the “unique” and “undivided” (L 23) particle. All creation comes from this one original, undivided particle. From “*oneness*” (L 23), by God’s Volition, many atoms radiate and form the creation. However, the “diffusion from Unity” also includes “a tendency to return into Unity” (L 23), and this return is unstoppable until the process is completed. Once the Divine Volition of diffusion withdraws, Matter in the Universe obeys--or rather “*exists*” as--two principles: “attraction and repulsion” (L 25). The principle of attraction describes the tendency of atoms seeking one another in search

for Unity. The principle of repulsion describes the influence that temporally restrains the tendency of the return to Unity. When everything reunites completely with everything else, the end of the Universe will occur. However, this “*Annihilation*” (L 7), or Unity, is not a physical location or a material mass at the center of the Universe, since in Unity what we call “Matter” ceases to exist. Instead, Unity is a “principle” (L 34), a state in which particularity and distinction do not exist, a state that everything imperatively seeks and inevitably finds when the time comes. At the conclusion of the treatise, the narrator proposes that the end of one Universe only initiates a new Universe and the cycle will continue everlastingly, since true symmetry is demonstrated by the mutuality of beginning and end as well as creation and destruction.

Although the narrator, when announcing his plan, claims that it is “rash” (L 7) of him to present conclusions and ideas contradictory to authoritative beliefs, the treatise frequently refutes, rejects, questions, and disqualifies the authorities, vehemently, passionately, and even “scornfully.”⁹ For example, the narrator belittles the “crawling” (L 10) of deductive and inductive reasoning. He modifies the Newtonian Law of Gravitation and dismisses recent scientific discoveries as valid proof against Laplace’s Nebular Hypothesis. He discredits Mädler’s hypothesis on the structure of the solar system, and he ridicules anyone who supports or even entertains the idea of a material ether. Therefore, readers might safely claim that *Eureka* is established on a spirit of passionate

9. Harold Beaver, commentary on *The Science Fiction of Edgar Allan Poe*, ed. Harold Beaver (Harmondsworth: Penguin, 1976), 412.

disagreement or dissatisfaction, targeting popular beliefs about scientific methodology and its restraints on our access to cosmic truths.

However, how can *Eureka* meet these challenges? Or rather, how is the audience supposed to believe in the narrator and author of the treatise? *Eureka* is delivered first as a speech then as a booklet in print by a writer who was popularly perceived in antebellum America as a literary man—poet, fiction writer, editor, and literary critic. Thus, the issue of credibility needs to be addressed even if, or especially when, the opening of the book professes such bold confidence. How can the author of “The Raven” convince his audience of the truth of his book when the subject is astronomy? This chapter argues that Poe adjusts rhetorical strategies to challenge different scientific authorities and convince readers of his authority. Guided by his elevation of poetic instinct and imagination, Poe delivers his challenges with rhetorical mastery, dramatic effect, and religious enthusiasm. This perspective is significant because it attests to *Eureka*’s intimate engagement with its scientific sources and Poe’s serious consideration of the fruits and restraints of the science of his day. Consequently, more scholarly work should be conducted investigating *Eureka*’s ideas, language, and its scientific-poetic duality.

Before discussing in detail how Poe fashions his scientific credibility, the next section will provide an overview of the existing scholarship on *Eureka* as a scientific treatise, since the various attitudes, premises, approaches, and conclusions will inform my own discussion on how Poe fashions his scientific credibility.

1. Literature Review of *Eureka* as a Scientific Treatise

Modern readers of *Eureka* continue to debate the nature of Poe's treatise. Should it be read as a scientific or an aesthetic work? Poe does not make it easy. In the Preface, the narrator professes that *Eureka* is a book of "Beauty" and asserts that the book should be read and "judged" as a "Poem" (L 5). In addition, the treatise maintains that "[t]he Universe is a plot of God" (L 89) and the "*dénoûment* [*sic*]" (L 99) should be engineered within the plot structure. All these statements have their roots in Poe's critical reviews on poetry and drama. Therefore, they seem to invite readers to view *Eureka* as a work of Poe's poetics, especially when the book describes the Universe in poetical terms and announces that the human instinct for symmetry is "the poetical essence of the Universe" (L 96). However, *Eureka* is also undeniably filled with numbers, astronomical terms, references to scientists and their discoveries, inventions, theories, and speculations. The narrator seems to be engaged with the scientific beliefs and debates, summarizing, quoting, dismissing, and sometimes offering his own revision of certain theories. As a result, it seems justifiable to approach *Eureka* as a work of cosmology that relies heavily on astronomy.

Since the publication of *Eureka*, many critics have interpreted the treatise as a work of poetics rather than scientific writing. As early as July 20, 1848, a notice in the *Boston Transcript* states that *Eureka* is a piece of literary writing.¹⁰ Similar judgment is

10. [Epes Sargent], "Notice in the *Boston Transcript*, 20 Jul. 1848," in *Edgar Allan Poe: The Critical Heritage*, ed. I. M. Walker (London: Routledge, 1986).

also echoed by Edward Wagenknecht in the 1960s.¹¹ Perhaps the harshest critique comes from T. S. Eliot when he discusses Poe's influence on French poetry. Eliot readily dismisses *Eureka* as producing "no deep impression" on its readers because they are "aware of Poe's lack of qualification in philosophy, theology or natural science."¹² Daniel Hoffman, while acknowledging Poe's serious and successful incorporation of science into *Eureka*, contends that *Eureka* is "neither a scientific treatise nor ... a description of the universe."¹³ Instead, it should be read as "a treatise on metaphysics," using "cosmogony as its materials" and "the terminology of science as its diction."¹⁴ In the most recent study on Poe's poetics, *The Poet Edgar Allan Poe: Alien Angel*, Jerome McGann declares that both the subject and the main idea of *Eureka* "should be understood in poetical rather than philosophical or scientific terms."¹⁵ McGann believes that *Eureka* belongs to the same "mode of poetics" that hides its poetic essence beneath its surface presentation of

11. Edward Wagenknecht, *Edgar Allan Poe: the Man Behind the Legend* (New York: Oxford University Press, 1963).

12. "From Poe to Valéry," *Hudson Review* 2, no. 3 (Autumn 1949), 341, <http://www.jstor.org/stable/3847788>.

13. Daniel Hoffman, *Poe Poe Poe Poe Poe Poe Poe Poe* (New York: Doubleday; Baton Rouge: Louisiana State University Press, 1998), 274.

14. *Ibid.*, 275, 274, 274.

15. Jerome McGann, *The Poet Edgar Allan Poe: Alien Angel* (Cambridge, MA: Harvard University Press, 2014), 102.

astronomical arguments, just like Lord Byron's *Childe Harold's Pilgrimage* and Samuel Taylor Coleridge's *Biographia Literaria*.¹⁶

In contrast to scholars who resist reading *Eureka* as a scientific work, many critics carefully examine Poe's evidence, references, and arguments, and affirm *Eureka*'s scientific value.¹⁷ Some of these critics confirm Poe's scientific insights by situating *Eureka* in its own time,¹⁸ while others look into Poe's future and view Poe as a pioneer

16. Ibid., 97. However, not every discussion on the poetic aspect of *Eureka* denies its scientific value. For instance, Curtis M. Brooks traces through Poe's tales and *Eureka* the author's effort of reconciling matter with spirit, mechanics with poetry. Brooks maintains that despite its scientific content, *Eureka* is "an exercise of the creative imagination" (64), which impels to dive "into the sublime terror of first and last things" (65). Vincelette rejects approaching *Eureka* as a scientific hoax, but contends for reading the work as describing true scientific and religious realities, foretold through poetic imagination. Stephen Rachman discusses the connection between "Al Aaraaf" and *Eureka*. Rachman states that the cosmology in *Eureka* reflects Poe's further investigation and representation of the Arabesque, namely the recurrence of light, communication, and the idea of in-betweenness.

17. David N. Stamos, in the most recent comprehensive study on science and *Eureka*, *Edgar Allan Poe, "Eureka," and Scientific Imagination* (New York: State University of New York Press, 2017), measures Poe's scientific engagement with that of his contemporaries and today's scientists. To validate Poe's notion of scientific imagination, Stamos also analyzes several breakthroughs in the history of modern science. Stamos's work, however, was not available at the time of this dissertation defense.

18. For instance, Susan Welsh interprets *Eureka* as a participant in the debate on analogy as a scientific methodology in Poe's day. Influenced by Humboldt, Poe approves the use of both "rhetorical analogies and philosophical analogies" (13), but he also cautions us against using analogies to pursue superficial conclusions. Axel Gelfert situates *Eureka* in the debate on scientific methodology in Poe's day and maintains that Poe promotes the "abductive" inference (590) as a new scientific method that transcends the traditional inductive and deductive reasoning. Poe's new method exalts imagination and holds imagination as an innate part of science. While Poe's new methodology might have been grounded in his poetics and aesthetics, Gelfert contends that the value of this methodology should not be viewed only in connection to Poe's personal, literary ideals. Instead, the methodology should be viewed as a truthful contribution to how to view our natural world. Gelfert furthers his claim by pointing out Poe's version of science inherently contains "imagination and intuition," without which science "would remain incomplete by its own standards" (601).

for today's scientific theories.¹⁹ However, not every critic who evaluates *Eureka* as a scientific document approves of Poe as a scientific writer. For instance, Peter Swirski contends that the treatise, while appearing scientifically sound and objective, is in fact “full of errors,”²⁰ sometimes unintentional because of a lack of correct knowledge while other times intentionally made to fit the scientific facts for Poe's theories. In addition, Swirski argues that Poe's depiction of the image of empirical studies and data gathering of his time is “simply false.”²¹ For instance, data gathering not only informed but also inspired Kepler's research and conclusion. In other words, Kepler did not exclusively guess the results, as Poe has argued.

Besides offering contending voices on *Eureka*'s scientific value, scholars who research *Eureka* as a scientific work also examine scientists, conventions, concepts, theories, discoveries, and texts that informed the astronomy and cosmology presented in the treatise. In their notes to their scholarly edition of *Eureka*, Levine and Levine offer the most comprehensive, extensive annotations on the scientific, philosophical, cultural, and literary sources that influenced *Eureka*. Bruce Mills, in his *Poe, Fuller, and the*

19. Edward Harrison looks into Poe's future and believes that *Eureka* offers “the first anticipation of a formally correct solution” (148) to Olbers's Paradox. Susan Manning considers Poe's cosmological conclusions a mixture of seriousness and hoax that anticipates the postmodern “self-designing, self-annihilating systems” (251). Ruth M. Harrison reads Poe's treatise as anticipating today's chaos theory and the fractal system. Harrison also contends that Poe should be understood as the “forefather of the postmodern fascination with chaos, paradox, and self-reference” (43). Harry Lee Poe states that Poe's speculation on the beginning of the Universe echoes today's Big Bang Theory except for a few discrepancies (153). Mihai A. Stroe considers Poe as the forefather for chaos theory, Big Bang Theory, Big Crunch Theory, and parallel universe.

20. Peter Swirski, “An Essay in Cosmology,” chap. 3 in *Between Literature and Science: Poe, Lem, and Explorations in Aesthetics, Cognitive Science, and Literary Knowledge* (Montreal: McGill-Queen's University Press, 2000), 55.

21. Peter Swirski, “Towards a New Epistemology,” chap. 2 in *Between Literature and Science*, 39.

Mesmeric Arts (2006), examines the core ideas of *Eureka* and “the mesmeric discourse on celestial motion” to argue for the connection between the creation by God and the creation by humans.²² Other smaller-scaled discussions mostly focus on one or a few of Poe’s scientific sources or scientific conventions.²³

While the aforementioned critics explain the scientific sources for *Eureka* and compare and contrast Poe’s ideas with those of his sources, few scholars scrutinize how Poe incorporates his sources. Margaret Alterton briefly mentions that Poe’s methods of incorporating his sources vary. Poe sometimes only summarizes the idea and sometimes reiterates word for word. However, Alterton also touches on Poe’s linguistic effect when

22. Bruce Mills, *Poe, Fuller, and the Mesmeric Arts: Transition States in the American Renaissance* (Columbia: University of Missouri Press, 2006), 69.

23. For instance, Margaret Alterton focuses on the influence of Thomas Dick, Kepler’s biography written by Bethune, Sir David Brewster, and Laplace. Frederick Conner examines the parallels between Nichol and Poe. Conner also explains Poe’s hostility toward Nichol as the former quotes and intentionally misconstrues and criticizes the latter. Beaver, in the introduction to his scholarly collection of Poe’s science fiction, discusses the scientific discoveries of Poe’s day as well as Poe’s attitude toward science. In his commentary on *Eureka*, Beaver focuses on Newtonian ideas in the treatise. Ronald L. Numbers discusses Poe’s similarity to and difference from Laplace regarding their methods and attitudes toward the intuitive leap. Susan Manning points out Poe’s “towering condescension towards Newton and Laplace” because they are “‘mere’ mathematicians” (238). Manning observes that it is possible to understand *Eureka* as “a satire on scientific language and experimental procedures” (241). Kenneth Silverman discusses Laplace’s and Nichol’s influence on Poe. Susan Welsh examines Humboldt’s influence on Poe’s attitude toward analogy as a scientific method. A. Cappi discusses *Eureka* as a Newtonian model of the universe.

More recently, James V. Werner states that both Poe and Humboldt participate in the nineteenth-century project of bridging science with imagination, scientific specialists with non-specialists, and the abstract with the concrete. Werner also believes that both Poe and Humboldt employ the methods of the flaneur, emphasizing on generalization, visual observation, and intuition. Courtney Fugate maintains that *Eureka* steps in and adapts the German cosmological tradition established and developed by Nicholas of Cusa, Giordano Bruno, Leibniz, Kant, F. W. J. Schelling, Coleridge, and Humboldt. This tradition believes that the status of the self correlates with that of the universe and that God lives through every one of us. Jonathan Taylor, in “Cosmology and Cosmogony,” delineates Poe’s connection with and modification of the cosmological traditions of Newton, Laplace, and Kepler. Robert J. Scholnick situates the cosmology of *Eureka* in the “politics of science and religion” in Poe’s time (86). Scholnick argues that Poe “[thought] through the most basic questions about the very origins and destiny of the cosmos” (86), amid the controversies provoked by Robert Chambers’s *Vestiges of the Natural History of Creation* (1844) and *Explanations* (1845).

including sources by noting that Poe sometimes preserves “a certain reverence of tone”²⁴ in his own writing, especially in the case of Thomas Dick, whose *Christian Philosopher* is followed closely by *Eureka*.²⁵ Barbara Cantalupo believes that Poe arranges the scientific facts with a language that spirals inward so as to confuse, overwhelm, and subdue the audience into a “trance-like state.”²⁶ Cynthia Miecznikowski investigates the rhetorical similarities between *Pym* and *Eureka* and maintains that both texts incorporate sources that disrupt the narrative and that both beginnings are ““false.””²⁷ In her unpublished dissertation, Elva Kremenliev examines more closely Poe’s methods of source incorporation. Kremenliev claims that Poe includes his sources selectively and presents them to appeal to the reader’s imagination while stalling potential questions from the reader. Poe also uses abstraction or theological answers when his speculation might be challenged. In addition, Poe manifests “the manner of a skilled political orator,” working to “demolish” any doubts.²⁸ Kremenliev concludes that Poe incorporates astronomical science in *Eureka* “exactly the same way”²⁹ as he includes sources for his literary criticism.

24. Margaret Alterton, *Origins of Poe’s Critical Theory* (Iowa City: University of Iowa Press, 1925), 117.

25. *Ibid.*, 139-40.

26. Barbara Cantalupo, “‘Of or Pertaining to a Higher Power’: Involution in *Eureka*,” *American Transcendental Quarterly* 4, no. 2 (1990), Academic OneFile (edsgcl.8704024).

27. Cynthia Miecznikowski, “End(ing)s and Mean(ing)s in *Pym* And *Eureka*,” *Studies in Short Fiction* 27, no. 1 (1990): 60, Academic OneFile (edsgcl.10964628).

28. Elva Kremenliev “The Literary Uses of Astronomy in the Writings of Edgar Allan Poe” (PhD diss., University of California, Los Angeles, 1963), 322.

29. *Ibid.*, 368.

Alterton's attention to tone, Cantalupo's inspection of the linguistic effect, and Miecznikowski's and Kremenliev's discussion on Poe's diplomatic manner in *Eureka* illuminate the importance of studying Poe's stylistic effect and rhetorical strategies to understand the relationship between Poe and his scientific sources in *Eureka*. It is crucial to understand the provenance of Poe's scientific ideas, and how his ideas echo, develop, or challenge his sources. At the very same time, it is worthwhile to investigate how Poe weaves and blends the scientific sources with his own ideas and, more importantly, whether his methods of weaving and blending change and to what effect or purpose. After all, Poe crafted *Eureka*, not just as "a collage of" others and his own ideas, but also as a work striving for "dramatic impact" and "memorable effect."³⁰

Some critics have attempted to approach Poe's stylistic choice or rhetorical strategies, although not necessarily for the purpose of discussing Poe's use of scientific sources.³¹ While these critics mostly focus on a single rhetorical or stylistic aspect in *Eureka*, Swirski analyzes several rhetorical tropes. In spite of seeking to discredit Poe's

30. Levine and Levine, Introduction to *Eureka*, xii.

31. For instance, Gorham B. Munson demonstrates that *Eureka* is filled with *metanoia*, a rhetorical device for afterthought (35). John P. Hussey claims that the entire treatise of *Eureka* is "climatic" (39). Alan C. Golding maintains that *Eureka* compels its audience "to accept more metaphorical language" (1) so that they can conceive the sublimity of the speaker's subject. Joan Dayan contends that Poe's use of dashes reflects his careful choice of words to express the higher truth, but it also suggests the difficulty of using language to convey unspeakable knowledge. Max Nänny advances that in *Eureka*, Poe's textual pattern (the chiasmic sentence structure) mirrors his key idea (symmetry) (91). In "On Cosmology, Heresy, Abbott and Poe," Jonathan Taylor briefly discusses how the change of pronouns at the end of *Eureka* helps demonstrating the ascending grandeur of Poe's conclusion and the increase involvement with the audience (93). Jerome McGann contends that the "action" of Poe's language in *Eureka* is more important than the "content" of it (98). He considers the letter dated 2848 and the speech given by the Memories at the end of the treatise the two "most arresting rhetorical moves" (98). In addition, McGann also notes that the first person plural "marks *Eureka* as not just a poem but an oral poem" (105). He contends further that one noteworthy rhetorical mark of the poem is "its quietly intimate address" (105).

scientific validity, Swirski acknowledges “the strong and lasting appeal”³² of *Eureka* created by Poe’s rhetorical strategies. These strategies include hyperbole, chiasmus, repetition, as well as the use of long sentences, dashes, numbers, and scientific authorities. Swirski argues that Poe relies on rhetoric to establish and strengthen his credibility as a speaker on the subject of science, to present himself as competent, objective, and coherent, and to distract readers from any errors or weaknesses in his arguments. Rhetorical strategies help to guide the audience to focus on the sublimity of Poe’s subject and conclusions. Swirski concludes that the success of *Eureka* lies in its rhetorical forces rather than its scientific soundness.

More noteworthy is Brett Zimmerman’s book-length study on Poe’s rhetorical and stylistic patterns, *Edgar Allan Poe: Rhetoric and Style*, which informs this study.³³ Zimmerman provides a defense of and concrete analysis of Poe’s prose style, grounded in stylistic and rhetoric studies. In doing so, Zimmerman establishes Poe as a self-conscious, masterful stylist and rhetorician who adapts styles to different subjects, purposes, personae, and effects. Although no chapter is specifically devoted to the discussion on rhetorical devices in *Eureka*, passages and sentences in *Eureka* emerge frequently as examples in the Catalogue at the end of the book. As a result, Zimmerman lists and briefly discusses over twenty rhetorical devices employed in *Eureka*.

32. Swirski, “An Essay in Cosmology,” 61.

33. Brett Zimmerman, *Edgar Allan Poe: Rhetoric and Style* (Montreal: McGill-Queen’s University Press, 2005), *MTSU Libraries’ Catalog* (mts.b2972406).

While I agree with Swirski's claim that Poe uses rhetorical tropes to build his credibility, there is still much to expand and develop. I believe Poe demonstrates different ways to convince readers of his authority. For example, tropes change when Poe works with different scientific sources. In addition, while Zimmerman discusses a wide range of rhetorical patterns in *Eureka*, I focus on passages in which Poe's own ideas and his scientific sources intersect. Specifically, I provide a detailed analysis of Poe's rhetorical choices concerning Newton, Laplace, and Mädler to help readers uncover Poe's patterns and rationale.

2. Rhetorical and Stylistic Analysis of Poe's Incorporation of Scientific Sources

2.1 On Unity as the True Principle behind Newton's Law

Does not so evident a brotherhood among the atoms point
to a common parentage?
—Poe, *Eureka*³⁴

Relying on careful stylistic arrangements, Poe gradually transforms a soundly proved and widely accepted authority, Newton's Law of universal attraction, into the gateway to a myriad of hidden miracles that testifies Unity, the true cosmic principle hidden behind the law. Poe employs stylistic patterns slowly but firmly to convince his audience of the necessity of transcending Newton's Law to reach higher truth. The gradual process of the narrator's transformation and transcendence helps successfully assert his credibility as one comparable to, if not wiser than, Newton. In addition, it also

34. L 33

shows that it is necessary to see science and imagination, or scientist and Poet, as compatible.

Poe first introduces the Newtonian Law of Gravitation: “That all bodies attract each other with forces proportional with their quantities of matter and inversely proportional with the squares of their distances” (L 30). The summary is only one long sentence with one verb, “attract.” As a result, not much action is described in that sentence. It describes a general relationship between forces, the quantities of all bodies, and the distances between all bodies. Through repetition, what is standing out is “proportional”—the word that describes “forces.” In a word, the summary above emphasizes the properties of the forces of attraction: how much they are and how they vary in different circumstances.

Poe then paraphrases the Newtonian Law of Gravitation, employing “a more philosophical phraseology” (L 30): “*Every atom, of every body, attracts every other atom, both of its own and of every other body, with a force which varies inversely as the squares of the distances between the attracting and attracted atom*” (L 30). On the sentence level, this version consists of several shorter phrases and employs the rhetorical device of *ploce*, repetition of a word to emphasize its significance.³⁵ Through repetition, these words are being emphasized: “every,” “atom,” “every other,” and different forms of “attract,” “attracting,” and “attracted.” Consequently, the second summary is concerned less with how to calculate the force of attraction than the first summary, but it highlights the

35. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 22.

phenomenon that every single atom tends actively to join others. The action of attraction is emphasized here, and the repetition of “every” indicates the universality of this action. Therefore, by rewriting the summary of Newton’s Law, Poe has gradually suggested to his audience that they have not truly grasped the source or implication of the law.

Poe moves from suggestion to illumination as he begins to uncover the true meaning of the Newton’s Law. The second summary of the Newtonian Law appears again, but this time only the first half of the sentence is italicized, indicating the importance of the first half: “*Every atom, of every body, attracts every other atom, both of its own and of every other body, with a force which varies inversely as the squares of the distances between the attracting and attracted atom*” (L 31-32). Having signaled the significance of the first half of the Newtonian Law, Poe invites the audience to a pause, enticing his readers to recognize the potential hidden beneath Newton’s Law, a scientific description that, though widely accepted and respected, probably remains distant, abstract, and intangible for many readers. The italics are Poe’s, but I bolded words and phrases to assist my stylistic analysis:

Here let the reader pause with me, for a moment, in contemplation **of the miraculous—of the ineffable—of the altogether unimaginable complexity** of relation **involved in the fact** that *each atom attracts every other atom*—**involved merely in this fact** of the Attraction, without reference to the law or mode in which the Attraction is manifested—**involved merely in the fact that** each atom attracts every other atom *at all*, in a wilderness of atoms so numerous that those

which go to the composition of cannon-ball, exceed, probably in mere point of number, all the stars which go to the constitution of the Universe. (L 32)

Poe employs the rhetorical devices of right-branching, *iteratio*, and *climax* to entice the audience to pause and unpack the meaning hidden behind the phraseology of Newton's Law. The whole passage is, in fact, one very long right-branching sentence. A right-branching sentence is a main clause "followed by at least one dependent clause,"³⁶ which is complete at the very beginning. Here, the sentence is grammatically complete with "Here let the reader pause with me." What follows is one winding clause after another, and it takes quite some time before readers find out in full what they have paused for. Critics such as Zimmerman have noted that Poe as a literary reviewer condemns the use of right-branching, but Poe uses it in *Eureka* anyway. Because of the right-branching structure of the passage, the pause literally becomes a long one. The length of the pause renders the gesture important for understanding the paraphrased version of Newton's law.

To investigate exactly what the narrator has asked us to pause for, one needs first to note the adjectives separated by dashes: "the miraculous," "the ineffable," and "the altogether unimaginable." This is an example of *iteratio*, that is, a "repetition of the same idea, sometimes in different words, for vehemence or fullness."³⁷ All three adjectives, "miraculous," "ineffable," and "unimaginable," express amazement and wonder, and by listing them in succession, the passage demonstrates fully how one is supposed to feel

36. Ibid., 9.

37. Ibid., 242.

about the complex relationship shared by the atoms. In addition, the succession of these three adjectives shows an increasing degree of amazement. “Miraculous” means unearthly amazing, but “ineffable” indicates something too great to be described by words, while “unimaginable” denotes something so incredible that it is out of our comprehension. As a result, the narrator builds a *climax*, i.e. “the arrangement of words, phrases, or clauses in order of increasing importance.”³⁸ Through this climax, the narrator not only dramatizes the importance of grasping the wonder hidden behind Newton’s Law but also leads the readers up an ascending ladder of conceptualization, challenging and enticing them to follow him to a higher, newer realm of knowledge.

Looking further into the passage, we can see clauses led by a repetition of “involved in the fact that.” Here we have another example of *iteratio* combined with *climax*. These two rhetorical figures work together to free the reader from looking at the universe only through technical terms, and develop a more tangible view of the significance of universal attraction. While each clause means roughly the same thing—each atom attracting every other atom—each is expressed with varied emphasis and the imagery and significance involved in each expression expand and intensify. The first clause simply restates the law: “*each atom attracts every other atom.*” The second clause reads: “the Attraction, without reference to the law or mode in which the Attraction is manifested.” It summarizes the previous restatement as “Attraction,” but emphasizes that this attraction does not need to be confined with a name. That is to say, the clause directs

38. Ibid., 170.

our attention to the phenomenon itself, rather than to how we have defined it. The third clause reads: “each atom attracts every other atom *at all*, in a wilderness of atoms so numerous that those which go to the composition of cannon-ball, exceed, probably in mere point of number, all the stars which go to the constitution of the Universe.” This clause illustrates the consequence of the phenomenon of attraction: attraction is such a universal, powerful movement among the atoms that there are more atoms in a cannon-ball than there are stars in the whole universe.

If the Newtonian Law of “every atom attracting another” has been too abstract and too confined by its name for the readers, Poe’s comparison between atoms and stars as well as cannon-ball and the universe certainly helps to dissolve the abstraction and distance. The comparison offers the readers a venue to be truly amazed by the work of attraction. It also prepares them for the hidden meaning of attraction. The three clauses, therefore, while echoing one another, grow in length and gradually liberate the reader’s notion of attraction from its name—the Newtonian Law of Gravitation. It also makes the work of attraction more tangible for the readers so that they will want to further understand the true meaning of attraction.

Even the varied repetition of “involved in the fact that” attests to the combination of *iteration* and *climax*. The arrangement metamorphoses from “involved in the fact that,” to “involved merely in this fact,” and finally to “involved *merely* in the fact that.” Again, the three phrases convey the same meaning, but with the addition of “merely” and

“*merely*,” they emphasize more and more suggestively the importance of focusing solely on attraction as a phenomenon rather as a law.

In sum, this passage illustrates and amplifies the emotional power and intellectual significance hidden behind Newton’s law by employing these rhetorical strategies. As a long but justified pause, this passage establishes the narrator’s credibility by opening the reader’s mind to the possibility that even Newton, respected and approved as he is, has not told fully the secret of the Universe. In addition, the rhetorical devices in the passage depicts the speaker as patient, willing, and intelligent, since he is the one who has decided to take a long pause so that readers can catch up, contemplate on the insufficiency of Newton’s Law, and get ready for the induction into the hidden cosmic truth.

The image of a patient, intellectual unpacking of complex ideas for the public fits in the Lyceum tradition of Poe’s time, given that *Eureka* was a public lecture first. As envisioned by some of the early promoters, the lyceum was an educational platform for the learned to impart knowledge to the mass.³⁹ Although lecturing as a practice began long before the lyceum was established as a system, it was in the 1830s and 1840s when the audience of the lecture broadened from smaller, more specialized and exclusive groups to larger, more diverse groups.⁴⁰ As a result, in Poe’s time, lecturers in the lyceum circuit were catering to a general public that might not possess the educational or intellectual background of the lecturer. Therefore, it is reasonable and effective for Poe’s

39. See Ray, *Lyceum and Public Culture*, 16.

40. See Donald Scott, “The Popular Lecture and the Creation of a Public in Mid-Nineteenth-Century America,” *Journal of American History* 66, no. 4 (1980): 792, <http://www.jstor.org/stable/1887637>.

narrator to assume the role of a teacher-presenter who inducts his audience to enlightenment step by step.

However, before the induction, the narrator secures further the reader's commitment by painting two extreme scenarios to amplify the implication of universal attraction. These two examples rely heavily on a passage from Lecture III of John Pringle Nichol's *Views of Astronomy*,⁴¹ a highly acclaimed lecture series delivered around the same time in New York when Poe was giving his speech on *Eureka*. However, Poe does not give credit to Nichol's illustration. Here, I juxtapose Nichol's and Poe's passages to demonstrate their contrasting ideas and stylistic strategies:

Nichol's passage:

So universal is this energy, and so **unlimited** its sphere, that even this mote that I hold in my hand sends forth an effective notice of its being, to the **remotest** orb among the **profound recesses** of space; nay, alter its relative position by a quantity however small, and your act is felt throughout the **unfathomed** Universe! The amount of influence it exerts, it is true, is slight, unmeasurable, infinitesimal; but nevertheless an influence it does exert on the **remotest** Orb that

41. *Views of Astronomy* is a series of seven lectures on popular astronomy, delivered by Nichol in January and February 1848 at the New York Mercantile Library. Nichol set out from Glasgow for his American lecture tour in early November and arrived in Boston on November 22, 1847. He was well respected and liked in the United States. The *New York Tribune* first printed the lectures "in the daily issues following the individual lectures, then seriatim in the weekly supplement of February 19, and finally as a separate publication by the firm of Greeley and McElrath" in New York (Conner 199). Lecture I discusses the role of telescopes in mapping out the vast universe. Lecture II focuses on the mechanism of the universe. Lecture III and IV survey the most significant astronomical theories and discoveries about the Solar System, including Laplace's Nebular Hypothesis. Lecture V demonstrates the nature, motion, and influence of comets in our Solar System. Lecture VI discusses the satellites in the Solar System. Lecture VII is about the spots, atmosphere, and atmospheric storms of the Sun. Nichol's lectures aimed to not only impart astronomical knowledge but also guide the audience to view the physical universe as proof of God's Might and Glory.

wings its **mystic** flight through Space. (John Pringle Nichol, *Views of Astronomy* [New York: Greeley and McElrath, 1848], 15-16)

Poe's passage:

If I propose to **ascertain** the influence of one mote in a sunbeam on its neighboring mote, I cannot accomplish my purpose without first **counting** and **weighing all** the atoms in the Universe and **defining** the **precise** positions of all at one **particular moment**. If I venture to displace, by even the **billionth** of a part of an **inch**, the **microscopical speck** of dust which lies now on the point of my finger, what is the character of that act upon which I have adventured? I have done a deed which shakes the Moon in her path, which causes the Sun to be **no longer** the Sun, and which alters **forever** the destiny of the **multitudinous myriads** of stars that **roll** and **glow** in the **majestic** presence of their Creator. (L 32)

The most noteworthy difference between the two is that while Nichol believes that moving one object in the universe will only produce a tiny effect for the rest of the universe, Poe announces that the effect will be enormous, no matter how small the object is. Poe's narrator appropriately employs *hyperbole*--"exaggeration, overstatement, often used for emphasis or comical effect."⁴² For example, "the billionth part of an inch" and "microscopical speck" are both expressions emphasizing that even the tiniest movement

42. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 17.

of the tiniest object will impact the universe. In addition, the claim that moving one mote will drastically and permanently change other heavenly bodies is also an exaggeration, especially when we contrast it with Nichol's statement that one small object can only exert a really small influence on the universe.

Poe's speaker also juxtaposes contrasting images to convey a sense of elevation and amplification. Unlike Nichol's passage, which presents contrasting images within the same clause, Poe's narrator demonstrates contrast on the passage level. The first half of Poe's passage highlights small objects, small details, and contained, exact actions, but the second half of the passage suddenly bursts with large objects (the Moon, the Sun, "myriads of stars") and drastic movements (shaken out of path, altered status, altered destiny). The transitions from small to enormous and from contained to drastic signal an expanding horizon of the reader, as they follow the guide of the speaker. In addition, the sound effect in the latter part of the passage also evinces a sense of exuberance, expansion, or elevation. The sound effects are shown through the rhyming words (roll and glow) and alliteration (multitudinous, myriads, majestic). According to Kremenliev, the musical quality in *Eureka's* "metaphysical passages" contributes tremendously to the treatise's poetic nature.⁴³ In a word, the whole passage transforms from being exact and constrained to being grand, elevated, and full of action, so that the audience is drawn from the trivial and the mundane to the stupendous and the cosmic.

43. Kremenliev, "Literary Uses," 363.

A comparison of the notional sets in both passages demonstrates that both lecturers present their images in a way that complements their respective identity. A notional set is a group of thematically associated words.⁴⁴ In Nichol's passage, the theme is mystery, or something vast and unknown. Words that demonstrate this theme include "unlimited," "remotest," "profound," "recesses," "mystic," and "unfathomed." In contrast, Poe's passage is full of words that refer to scientific calculation and precision: "ascertain," "counting," "weighing," "all," "defining," "precise," and "inch." These different themes attest to the mastery of Nichol and Poe as experienced public lecturers.⁴⁵ As a respected astronomy professor, Nichol does not need to stress his scientific credibility. Instead, as a science popularizer, he excites the audience by luring them with imagination and mystery stored in the cosmos. As a literary man using Nichol's passage as raw material, Poe chooses not to tread behind the same mystical image but to

44. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 23.

45. Conner points out that Nichol, as a touring lecturer, was well received by the American intellectual circles and the public. David Clarke maintains that Nichol was an energizing lecturer and inspiring science popularizer at Glasgow. Nichol was able to attract "crowds of listeners" (150) and inspire students "to aspire higher things" (149). As a public lecturer, Poe also possessed the ability to charm and impress his listeners. Many Poe scholars have noted various nineteenth-century newspaper reports on the general success of Poe's public lectures, including *Eureka* in the speech form. In addition, Kathleen Edgerton states that Poe "generally pleased both audiences and critics" and that Poe adapted lecture materials for audiences in Philadelphia, New York, and Richmond (273). However, it is also important to note that sometimes Poe's best intentions could yield the most undesirable results in a lecture, especially in the case of Poe's 1845 Boston Lyceum incident. Meredith L. McGill claims that Poe failed in his intention to challenge his reader's perception on the difference between "self-plagiarism" and "self-creation" (217), by reading "Al Aaraaf," a poem written when he was younger rather than a new poem, as expected by the occasion. Phillips, in his article "Poe's 1845 Boston Lyceum Appearance Reconsidered," interprets Poe's 1845 appearance as an unfortunate rhetorical move, entangled by Poe's psychological and literary desires. Eager to be accepted by his Boston audience but disappointed by their literary practices, Poe chose the wrong way to characterize and interact with Boston and his audience. Poe's Boston Lyceum appearance, misread by many, reveals actually how much hope Poe had for Boston to be his home, as Poe's mother had desired, and his literary ideals. After all, as Poe envisioned, Boston was "the place that *should* recognize and promote real literary merit" (50). The insights on both Poe's talent and weakness as a public lecturer might help readers of *Eureka* realize that Poe wrote and delivered for effect, but sometimes his emotion—enthusiasm or pettiness—directed him to venture into rash adaptations or even conclusions.

transform it into a portrait of himself investigating the Universe like a careful, logical, and meticulous scientist.

Concerned with precision and meticulousness, part of Poe's passage looks more scientific than Nichol's. At the same time, however, Poe's claim is considerably more dramatic and exaggerated than Nichol the scientist's. In addition, the mystical, unknown quality in Nichol's writing is replaced with Poe's dramatic certainty of one's influence on the universe. In a word, Poe's adaptation of Nichol's passage shows that Poe is eager to impress the audience with his scientific mind and the grandeur of his beliefs.⁴⁶

The induction to truth fully inaugurates as the narrator compels his readers to imagine boldly a most suitable, natural explanation, based on what they now understand about the universal attraction among individual atoms. The narrator launches into a group of rhetorical questions: "Does not so evident a brotherhood among the atoms point to a common parentage?" (L 33), thus leaving his audience no choice but to consider the connection of creation stemming from the very beginning of the Universe.

In conclusion, Newton was more respected and his theory had been well established and accepted as universal by the time Poe approached the subject of the Universe. So how does one convince his audience that a Law that has been proved universally correct needs improvement? How does one persuade his audience that a poet

46. Poe's love of the dramatic has a psychological and artistic root in his mother's legacy. Eliza Poe was a "highly talented and versatile performer." Philip E. Phillips, "The American Stage," in *Edgar Allan Poe in Context*, ed. Kevin J. Hayes (New York: Cambridge University Press, 2013), 119). Poe inherited Eliza's dramatic talent, and throughout his life, he produced drama reviews, wrote one drama, and incorporated theatrical elements and effects into his literary writings. Poe certainly also saw the lecture circuit as one way to pursue his love of the stage (Phillips, "The American Stage," 127).

or literary man like Poe is worth listening to even when he ventures into the field of astronomy? That is why Poe's narrator advances step by step: to persuade an audience that there is a need to modify a universally true law, it would be more effective not to criticize directly the law or discredit the scientist. It is not that Newton's position contradicts Poe's, but that Newton's Law is insufficient—it needs a guide like the narrator to transcend a scientific law unto the hidden principle behind this law. And transcendence can be best achieved by carefully building climax, enticing the audience to follow the narrator beyond Newton's tested and lauded description and eventually enlightening the audience with the sublime principle that truly explains Newton's description. In a word, through stylistic arrangements, Poe's narrator carefully but successfully asserts his credibility and then demonstrates that what he can offer is superior than what Newton has offered, while at the same time still shows that science and imagination, or scientist and Poet, are compatible.

2.2 On the Strength and Weakness of Nebular Hypothesis

Laplace's real strength lay, in fact, in an almost miraculous mathematical instinct:—on this he relied; and in no instance did it fail or deceive him:—in the case of the Nebular Cosmogony, it led him, blindfolded, though a labyrinth of Error, into one of the most luminous and stupendous temples of Truth.

—Poe, *Eureka*⁴⁷

47. L 70.

Laplace's Nebular Hypothesis⁴⁸ was considered in Poe's time the mathematical confirmation of Newton's Law of Gravitation. While relying on Laplace's theoretical framework, Poe's narrator absorbs the hypothesis into his own larger cosmic scheme and then defends it as a good, trusting disciple of the poetic instinct. The narrator's credibility is established by both subduing Laplace's hypothesis and defending the beauty and truth demonstrated by the hypothesis.

The hypothesis illustrates the origin of our solar system. According to Laplace, in the beginning, the solar system was a hot, slowly spinning nebulous atmosphere, with what is now the sun situated at the center. As the atmosphere cooled down and condensed, it spun faster and faster, leaving rings after rings of substance at the edge of the shrinking atmosphere. With the exception of Saturn's ring, most of the rings broke down as the temperatures cooled down and formed the planets. Later, satellites formed the same way as the planets cooled down and cast off rings.

Poe's narrator asserts his authority by first absorbing Laplace's Hypothesis into the narrator's own grand scheme. The narrator claims that Laplace's cosmogony is not a real cosmogony, since it explains only the origin of the solar system, one small portion of the whole universe. In addition, Laplace's theory only assumes "*much* of what I have been just endeavoring to place upon a more stable basis than assumption" (L 54). For instance, the hypothesis assumes that Matter was diffused into the space and the theory accounts only for what happens after the Divine Volition withdraws, when the principle

48. See Chapter IV of this study for a full explanation of the theory.

of attraction begins to work and atoms aggregate in all sizes and shapes. By presenting Laplace's theory as one section of the narrator's larger, wider theoretical frame, the narrator, to some degree, has taken the former under his wings.

It is not surprising, then, to see the narrator defend his protégé with vehemence against any challenge. Employing *antistasis* and *peristrophe*, the narrator effectively disparages the opponents who undermine the Beauty and the Truth of Laplace's hypothesis. The narrator praises Laplace's theory for its beauty and professes that the theory is "by far too beautiful, indeed, *not* to possess Truth as its essentiality" (L 60). Also, the theory comprises "a million of intricate consistencies" (L 60), which also prove it true. The belief that Beauty contains truth echoes the Preface of the treatise: the narrator's book is a "Book of Truths," because of "the Beauty" in the book, "constituting it true" (L 5). That is to say, the narrator evaluates Laplace's work with his own fundamental principle and considers the two kindred spirits. Therefore, the narrator dismisses any speculations that might take the beauty and consistencies away from Laplace's Hypothesis. For example, the narrator ridicules heartily the belief that God needed to implant the "tangential velocity" (L 60) to balance gravitation after the celestial bodies were formed in Laplace's Hypothesis so that the bodies could rotate perfectly. The narrator derides the phraseology of "the finger of Deity" (L 61), used by the opponents as they describe God's intervening work, and considers the phraseology "childish" (L 61). The phrase of "the finger of Deity" alludes to "the finger of God" in Luke 11:20 and symbolizes God's power. Therefore, when the opponents describe God's intervention

using the phrase, it is intended for awe and sacredness. However, when the narrator uses the phrase, it becomes a diminishing sign for immaturity and lack of intelligence, implying that the opponent cannot produce anything “absolutely accurate” (L 61) to explain why or how the celestial bodies revolve. Here, the narrator employs the rhetorical strategy of *antistasis*, “the duplication of a word in a different or contrary sense.”⁴⁹ At the same time, the narrator also has put “the opponent’s argument to his own use,”⁵⁰ an act of *peristrophe*. Through *antistasis* and *peristrophe*, the narrator transforms the opponents’ view from an expression of awe to one of childishness, thus effectively refuting the opponents’ attempt to complement Laplace’s Hypothesis with something that is so limited and immediate as the phrase of “the finger” betrays. Poe values frequently the power of phraseology, suggesting that there is power in words and linguistic presentation, as demonstrated in his earlier tale, “The Power of Words.” In addition, there is a sense that representation can become the substance or the metaphysical become the physical, as shown in “The Masque of the Red Death.”⁵¹

Instead of viewing Divinity as a creator that relies on the “the finger” to adjust and amend, the audience should see that the Divine Volition is capable of planning every motion and foreseeing every outcome at the moment of Creation. Therefore, the

49. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 97.

50. *Ibid.*

51. In “The Power of Words,” Agathos, one angelic being, relates that Earth was brought into being by “a few passionate sentences” (M 3:1215). In “The Masque of the Red Death,” Prince Prospero and his followers lose their lives once they discover that the unpopular guest is the Red Death itself, not a “masked figure” (M 2:674) wearing the costume of the Red Death. On a more literal level, Prince Prospero and his people die of the plague. On an epistemological level, however, they die of truth, or the knowledge that the representation of the plague is, in fact, the substance of the plague.

tangential velocity is not something to be added later on. In a long, winding paragraph built carefully to lead to a cosmological, metaphysical climax, the narrator demonstrates that the way the newly formed planets and satellites rotate is innately embedded in the Act of Creation:

I consider this force [i.e. the tangential velocity] as originating in the **rotation** of the stars:--this **rotation** as brought about by the **in-rushing** of the primary atoms, towards their respective centres of aggregation:--this **in-rushing** as the consequence of the **law** of Gravity:--this **law** as but the mode in which is necessarily manifested the **tendency** of the atoms to return into impartiality:--this **tendency** as but the inevitable reaction of the first and most sublime of **Acts**—that **act** by which a **God**, self-existing and alone existing, became all things at one, through dint of his volition, while all things were thus constituted a portion of **God**. (L 62)

This paragraph reinforces the narrator’s epistemological superiority by employing the rhetorical device of *climax* to establish both cosmological and intellectual hierarchies. By constructing the paragraph via a string of paired words, the narrator builds a linguistic bridge that leads the audience from one idea to the next. More importantly, however, the arrangement of this string of paired words also shows a set of ascending ideas, from visible and immediate to invisible and all-encompassing. This rhetorical device is called *climax*, a type of structure for “increasing importance.”⁵² With the succession of

52. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 170.

“rotation,” “in-rushing,” “law,” “tendency,” “act,” and “God” (L 62), the narrator demonstrates a hierarchy of cosmological order, from the planets, atoms, law of Gravitation, to God, the highest of all.⁵³ Not only is a hierarchy of cosmic beings revealed, but also an intellectual hierarchy reinforced by the narrator. By positioning the opponent’s focus on the tangential force and planetary rotation at the very low end of the hierarchy, the narrator shows it insufficient to explain the visible with what is immediate and obvious. Instead, he advocates for moving away from the phenomena to the principles. As the succession of ideas illustrates, how quickly a planet spins to balance the force of gravitation towards the sun is inherently determined by the tendency to return to Unity. And this tendency toward Unity is the reaction to the diffusion of God’s volition, which acts from the beginning of all Creation. In a word, by denouncing the immediate and the tangible, the narrator rejects the unnecessary, awkward belief of God’s intervention and protects the beauty and truth of Laplace’s Hypothesis. Thus, the narrator proves his credibility by showing his superior approach to obtaining cosmic knowledge.

Besides banishing the theory that might blemish the beauty and consistencies of Laplace’s hypothesis, the narrator also defends skillfully the hypothesis against some newly found physical evidence, employing the rhetorical figures of *peristrophe* and *praemunitio*. The narrator relies on *peristrophe* to undermine the opponent’s ability to interpret scientific findings, and he employs *praemunitio* to present himself as a competent orator. With improved telescopes, such as the one operating in Cincinnati and

53. Ibid., 171.

the one made by Lord Rosse, people discovered that what once were thought as nebulae were in fact “a cluster of stars” (L 67), only appearing blended because of their remote distance. This new knowledge about nebulae was perceived as a challenge or opposition to the validity of Laplace’s Hypothesis. Even Nichol considered the possibility that Laplace’s theory had been compromised in his *Views of the Architecture of the Heavens*.⁵⁴ Contrary to this new perception, the speaker of *Eureka* argues that the improved telescopic observation, in fact, strengthens the validity of the hypothesis, thus questioning the opponent’s ability to fully understand Laplace’s Hypothesis or astronomy in general. He announces that “a failure to segregate the ‘nebulae’ would have tended to the refutation, rather than to the confirmation, of the Nebular Hypothesis” (L 68). In this context, “‘segregating the nebulae’” means to see nebulae as clusters of separate stars, instead of the blended stellar atmosphere as hypothesized by Laplace. “A failure to segregate the ‘nebulae’” means to find nebulae as the same blended atmosphere as Laplace has described. In other words, the narrator argues that had the opponent observed nebulae as exactly how Laplace described in the origin of the solar system, the Nebular Hypothesis would have been proved wrong. The narrator has turned the opponent’s “‘ocular evidence’” (L 67) against the opponent’s argument. Here, the narrator employs *peristrophe*, a rhetorical move of “‘putting an opponent’s argument to one’s own use.’”⁵⁵ It is an effective rhetorical move, because it leads smoothly to the narrator’s following

54. The narrator of *Eureka* clarifies in the footnote on p. 67 that Nichol was less critical about the hypothesis in a later lecture. Levine and Levine identify this lecture as Lecture V in Nichol’s *Views of Astronomy*, see L 146n163.

55. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 97.

argument: We should not be able to find nebulae that match Laplace's description, since "the act of Creation has long ago ceased" (L 68) and Laplace's Hypothesis only describes celestial conditions at an early stage of the Universe. We know the act of Creation has ceased because we can now see the result of gravitation, i.e. the cluster of separate stars observed through those telescopes, and gravitation as a reaction to creation could not have proceeded had the act of creation not terminated first. In sum, while the opponent believes that seeing nebulae as separate stars has discredited the Nebular Hypothesis, the narrator contends that the opponent's evidence in fact proves Laplace correct. As a result, the narrator challenges the opponent's astronomical credibility, thus proves his own scientific capability.

However, the narrator does not simply pronounce his argument. By using *praemunitio*, he also anticipates potential objection from his opponents to appear fair and well-rounded. The narrator maintains further that since the law of gravitation, or the work of the principle of attraction, manifests according to a pace set by God, we can find in the universe different stages of aggregation. In addition, "the more remote" (L 68) the stars are from us, the more ancient they are and the earlier they have begun the process of condensation. Therefore, we can assume safely that the reason why we are now observing stars in different forms is that God has designed some celestial bodies to be formed earlier and more quickly than others. Poe's narrator acknowledges that some people might disagree with him because the different states of the celestial bodies we see now reflect only the states of "a vast number of years ago" (L 69). Consequently, our current

observation cannot be used to support the argument for the process of aggregation. According to Zimmerman, the act of “defending yourself in anticipation of an attack”⁵⁶ is called *praemunitio*, a common practice within the tradition of classical oration to secure further strength and confirmation for one’s own argument. The narrator follows this potential objection with the argument that although what we have observed is not the current status of the stars but stars many years ago, the “true” status of these stars observed now is still not as ancient as is described by Laplace’s theory. Therefore, Laplace’s theory still stands.

The narrator does not exclusively defend his protégé but also advances the “only objections to” (L 70) Laplace’s theory. While Laplace believes that Matter was distributed evenly, the narrator contends that the atoms need to be diffused unevenly to be able to aggregate and return to the center. After defending and critiquing Laplace’s Nebular Hypothesis, Poe’s narrator concludes that the “real strength” of Laplace lies in his “instinct” (L 70). The narrator supports this claim with elevated imagery and language: “Laplace’s real strength lay, in fact, in an almost miraculous mathematical instinct:--on this he relied; and in no instance did it fail or deceive him:--in the case of the Nebular Cosmogony, it led him, blindfolded, through a labyrinth of Error, into one of the most luminous and stupendous temples of Truth” (L 70). The religious image and tone conjured by a helpless pursuer of truth, a path full of confusion and downfall, a trustworthy, miraculous guide, and the sacred dwellings of Truth all indicate that Poe’s

56. Ibid., 38.

narrator designates an elevated role to intuition, whose higher way will compensate for human limits and errors, in this case, Laplace's limits and errors. The religious ecstasy and grandeur of the passage also posits the narrator as a fellow disciple of intuition, only that the narrator is more insightful than Laplace is, offering a clear-eyed view on Laplace's fault and his reward in spite of the fault.

To conclude, the narrator presents himself as someone who sees a more fulsome cosmic picture than the author of the Nebular Hypothesis. Laplace becomes the narrator's protégé, whose merit is acknowledged but whose weakness is also defended. The narrator reinforces his scientific credibility by presenting himself as a pursuer of higher principles rather than immediate explanation, as a competent thinker who can detect errors in his opponent's astronomical arguments, and as a well-rounded orator who can anticipate disagreements in advance. But more importantly, the narrator's scientific authority roots in something higher than physical evidence. Guided by intuition, this authority springs from a deep understanding of beauty and truth: Beauty is the gauge of Truth while consistency is the manifestation of Truth.

2.3. On the Fate of the Universe and Our Identity with God

“But all this will be merely a climactic [*sic*] magnificence foreboding the great End. [...] the majestic remnants of the tribe of Stars flash, at length, into a common embrace. The inevitable catastrophe is at hand.”

“[L]et us say, rather, in indulging a hope—that the processes we have 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?"

—Poe, *Eureka*⁵⁷

In contrast to the caution concerning Newton's Law and the amiable superiority regarding Laplace's Nebular Hypothesis, Poe's narrator discredits vehemently both the evidence and the premise of the commonly accepted beliefs regarding the structure and the end of the Universe. The narrator's treatment of the set of beliefs, of which Mädler is a part, is neither subtle nor gradual. The narrator manifests his credibility by presenting himself as an intelligent, sharp, harsh, and even ruthless thinker who understands not only science but also, echoing the tradition of Francis Bacon, the fundamental traps that produce human error.⁵⁸

Poe's *Eureka* announces that embedded in the Origin of the Universe and the act of Creation is the inevitable annihilation of the Universe. In time, every creation will reunite with one another and the end of the Universe will occur. However, this Unity, or end, is not a location, or material mass at the center of the Universe, since in Unity what we call "Matter" ceases to exist. In addition, the end of the Universe only means the beginning of the next one, and the cycle will go on forever. The perfectness of Divine design is demonstrated by the true symmetry of beginning and end as well as creation and destruction.

57. L 100, L 103.

58. Francis Bacon, *Novum Organum. The Works*, trans. and ed. Basil Montague (Philadelphia: Parry & MacMillan, 1854), 3:343-71, <http://history.hanover.edu/texts/Bacon/novorg.html>.

To advocate for this true symmetry or “the poetical essence of the Universe” (L 96), the narrator attacks vehemently a set of commonly accepted beliefs concerning the structure and the fate of the Universe, based on “analogical inference” (L 89), a belief or reasoning built on continuity or parallelism. Specifically, because “[m]oons have been seen revolving about planets; planets about stars; and the poetical instinct of humanity—its instinct of the symmetrical, even if the symmetry be but a symmetry of surface” (L 89), has compelled many to imagine that our whole celestial system operates in “cycles” (L 89). As a result, a set of beliefs has been built on this notion of cycles. These beliefs include: 1) Mädler’s theory that every celestial body revolves around a massive orb at the center of the universe, 2) a commonly accepted belief that everything will eventually collapse into this existing central orb, and 3) another commonly accepted belief that some retarding ether is the cause of this final collapse. My discussion will focus on the refutation of the material, retarding ether as the cause of the final annihilation, since it reveals the most Poe’s belief in the principles of simplicity, unity, and true symmetry.

Beaver points out that Poe confidently rejects, or rather, “scornfully dismiss[es],” the material ether because Newton “had similarly demolished” the theory of a rotating “subtle matter” that surrounds the celestial bodies and causes the revolving motion of the planets.⁵⁹ Although Newton’s precedence might have lent Poe some intellectual and emotional reassurance, it does not fully explain Poe’s scientific competence or his

59. Beaver, commentary, 412n54.

emotional intensity. To begin with, Poe is able to select evidence from different scientists, John Herschel, Nichol, Humboldt, and Lagrange (Laplace, in fact)⁶⁰ to help reject the set of beliefs grounded in the notion of cycles, which demonstrates his comprehension of the scientific debate on this issue. In addition, what Beaver detects as the scornful tone probably does not just come from Poe's confidence based on Newton's judgment.

Through his narrator, before quoting other scientists to support his refutation, Poe already has revealed and critiqued the fundamental fault in these beliefs: drawing conclusions based on what one can see and falling prey to the "symmetry of surface" (L 89). Just because we have seen moons "revolving about planets" and planets revolving "about stars," we cannot conclude so hastily that the "whole celestial system operates in 'cycles'," despite that our "instinct of the symmetrical" seems to sanction this conclusion (L 89). Poe points out that although the instinct of the symmetrical is innate for us, it can mislead us to pursuing the superficial symmetry instead of the fundamental symmetry.

Despite Poe's ridicule of Francis Bacon's inductive reasoning in both *Eureka* and "Mellonta Tauta," the way Poe's narrator exposes deeply-rooted errors in human reasoning resembles Bacon's critique of traps that produce false conclusions. In his *Novum Organum* (1620), Bacon identifies four "idols" or four sources that prevent the

60. Poe made a mistake naming the astronomer who dismantled the hypothesis of resisting ether as the cause of the diminished lunar orbit. It was Laplace, not Lagrange, who discovered that due to the influence of the Sun, the orbit of the Moon would alternate between circular and elliptical. When it changed from circular to elliptical, the orbit would decrease. When it transformed from elliptical to circular, the orbit would increase. In other words, gravity, instead of an ethereal material, was the true cause of the altered motion of the Moon. In addition, the Moon would not collapse into Earth because of its continuously diminishing passage. For a full explanation, see Vol. 2 of the 1809 translation of Laplace's *System of the World*, pp. 78-95.

mind from generating correct conclusions based on our senses. The first of the four idols, “idols of the tribe,” rooted in “human nature,” refers to the notion that “man’s sense is falsely asserted to be the standard of things.”⁶¹ In other words, to Bacon, the way humans perceive the world does not necessarily reflect how the world operates. Similarly to Poe’s narrator, what humans can observe and feel justified to believe do not necessarily reflect the operations of the Universe. Echoing the Baconian tradition, Poe’s narrator has discredited the premise of his opponents from the very beginning of the argument. Consequently, the narrator successfully makes room for his credibility as a thinker, despite the fact that he also quotes other scientists to support his refutation.

After pointing out the fundamental falsehood that nurtures the errors of his opponents, Poe’s narrator continues vehemently to retort the opponents’ beliefs via the use of *iteratio*. This is how Poe’s narrator rejects the belief that the celestial bodies will eventually collapse into a massive central sphere that is “*already existing*,” it is a belief built on evidence too “superficial” (L 96). Here the narrator employs *iteratio* to emphasize how weak this belief in fact is: “It is an idea, in fact, which belongs to the class of the *excessively obvious*. It springs, instantly, from a **superficial** observation of the cyclic and **seemingly gyrating**, or *vorticial* movements of those individual portions of the Universe which come **most immediately** and **most closely** under our observation” (L 96). The narrator lists a string of synonyms to amplify the effect of refutation,

61. Bacon, *Novum Organum*, 347.

emphasizing on the unreasonable, unsophisticated nature of the conclusion drawn based on immediate observation.

Poe's narrator then takes three steps to dismiss the belief that a retarding ether is the reason why everything will collapse eventually. During the first step, the narrator employs the rhetorical figure of *antithesis* to decry the faulty logic of his opponent. The narrator relates that on observing the decreasing orbit of Encke's comet, astronomers decided that there must be a material ether that had been slowing down the comet and reducing its "tangential force" (L 97), which would cause the comet to become closer and closer to the Sun and collapse eventually into the Sun. The narrator then comments that although the conclusion seems "strictly **logical**," the assumption of this ether is made "most **illogically**, on the ground that no other" (L 97) cause can explain the decreasing orbit of Encke's comet. The narrator contends further that "[it] is clear that **innumerable** causes might operate, in combination, to diminish the orbit, without even a possibility of our ever becoming acquainted with **even one** of them" (L 97). By pairing contrasting notions of "logical" and "illogically," "innumerable causes" and "even one of them," the narrator employs the rhetorical device of *antithesis*, i.e. "joining contrasting ideas,"⁶² to attack vehemently the seemingly valid ground and reasoning of his opponents. The use of *antithesis* emphasizes that the opponents have, in every step and every judgment, managed to choose the wrong path and therefore reached a convenient but wrong conclusion.

62. Zimmerman, *Edgar Allan Poe: Rhetoric and Style*, 135.

During the second step, the narrator produces Lagrange's explanation for the decreasing orbit of a celestial body. Lagrange (Laplace) maintains that while "the longer axes" remain the same, "the shorter axes" of the orbits are in fact oscillating (L 98). As a result, the orbits of celestial bodies change constantly between circles and ellipses, which means that there is no danger of a final collapse and thus no necessity to imagine a retarding ether.

What is more notable than the emotional intensity and argumentative power manifested through *iteratio*, *antithesis*, and other scientists' theories is that the narrator's refutation does not end with quoting scientists with whom he agrees. Instead, in the next few passages the narrator dramatizes the perfectness of Divine Design and the human instinct for this perfectness. In this way, the narrator renders the existence of the retarding ether impossible and even detestable, not just based on scientific findings, but more based on human instinct—what is essentially poetic. After quoting Lagrange's (Laplace's) theory against the necessity of the retarding ether, the speaker announces that both "the idea of a material ether" and "the thought of that universal agglomeration" have "departed" (L 99). The dramatic sense of the word "departed" heralds a whole paragraph written for a specific kind of impression--one that works to compel readers to trust their own instinct about the effectiveness of Divine creation and purpose. Since if the indirect force of the material ether is truly the cause of the end of the Universe, wouldn't we have felt cheated by such an imperfect result of creation? Our instinct would have rejected the notion that a perfect author as God would have written such "an imperfect *plot*" in which

the end is so “awkwardly brought about” by a force that is unessential to the design or purpose of the author (L 99).

Poe’s narrator presents his point with dramatic effect to impress or even coerce the audience into believing in the perfectness of Divine Design. The material ether as a cause to the end of the Universe is not unrelated simply to divine purpose; rather, it is “purely collateral” (L 99). The human instinct would not just disagree with or reject the idea that divine adaptation can be imperfect, but it would “have rebelled” (L 99). Humans need to be “forced” to entertain the idea that the Universe is created to be imperfect, and we are sure to experience “dissatisfaction” (L 99) in the process. In other words, it will be emotionally and intellectually unpalatable for us to accept the idea. Besides employing words suggesting the theme of antagonism, such as “rebelled,” “forced,” and “dissatisfaction,” the passage also highlights the theme of drama or the production of artwork through the words of “*plot*,” “*dénoûment*” (sic), “main subject,” “thesis,” “ruling idea,” and “book” (L 99). The narrator contends that in a perfect Divine plot of the Universe, how the story resolves should have been embedded in the original idea of Creation and have been executed coherently to the entire structure of Creation. Had the ending of the Universe relied on God’s afterthoughts:

[c]reation would have affected us as an imperfect *plot* in a romance, where the *denouement* is awkwardly brought about by **interposed incidents** external and foreign to the main **subject**; instead of springing out of the bosom of the **thesis**—out of the heart of the **ruling idea**—instead of arising as a result of the **primary**

proposition—as **inseparable** and **inevitable part** and **parcel** of the fundamental conception of the **book**. (L 99)

The narrator's use of "*dénoûment*" belongs to the poetic tradition articulated by Aristotle in his *Poetics*. Aristotle defines "denouement" (*sic*) as the unraveling of the plot in a tragedy, namely from the change of fortune to the end of the plot.⁶³ He advocates for resolving the plot within reason of the structure of the plot and rejects the external work "from the machine".⁶⁴ Poe's narrator asserts the same belief in the unified structure of the plot, although the plot of tragedy in Aristotle has been transferred in *Eureka* to describe the perfect cosmic design. Just as the ending of a tragedy can only happen as a coherent part of the whole plot, the ending of the Universe should not be brought about awkwardly but rather be engendered in unison with the original purpose of God the author. To sum up, Poe agrees with a certain scientific position not just based on its logical or intellectual soundness, but more importantly on the ground that it is in harmony with our instinct or soul—with what is essentially poetic.

In addition to incorporating drama-themed words and ideas, the passage also amplifies its argumentative power via a stream of alliterations. By pairing "interposed" with "incidents," "primary" with "propositions," "inseparable" with "inevitable," and "part" with "parcel," the passage magnifies the pronounced ideas of unity and coherency by producing a chorus-like sound effect (L 99). The dramatic effect here intends to drive

63. Aristotle, *Aristotle's "Poetics,"* trans. James Hutton (New York: Norton, 1982), 63-64.

64. *Ibid.*, 60.

the reader into believing or even assuming that the call of our instinct is both correct and undeniable. If quoting Laplace's scientific dismissal of the material ether has already demonstrated the narrator's position, the paragraph following Laplace's dismissal is using drama to further strengthen the rejection on a higher level—the level of soul and intuition. Just like the writings of natural theologians and scientific popularizers of his day, Poe's treatise does not stop at the level of physical proof, but ascends to the metaphysical.

After rescuing Divine design from the erroneous human notion that Divinity chooses to end the Universe through the retarding ether, the narrator revisits the idea of “the symmetry of mere surface” (L 99) and denounces its falsity. With passion, the narrator proceeds to seal the defeat of superficial symmetry by first celebrating “the symmetry of *principle*” (L 99) as the truth finder and then chanting the grandeur of the End of the Universe, brought about by the Divine author of the Universe. Alluding to Luke 11:9 in the Bible,⁶⁵ the narrator describes “the symmetry of principle” as someone who “seeks and finds” (L 99) the cosmic truth that the ending of the Universe is embedded in the origin. The biblical allusion of seeking and finding suggests that the symmetry of principle is guaranteed the reward of cosmic truth. In addition, both the truth and the process of pursuit are sacred.

The consecrate image conjured by the biblical allusion is joined further and amplified by the narrator's glorious depiction of how Divinity has ensured the

65. William Mentzel Forrest, Appendix to *Biblical Allusions in Poe* (New York: MacMillan, 1928), 193.

annihilation of the Universe via the “Spiritual Ether” (L 101). Since the astronomers’ material ether contradicts the perfectness of Divinity and repels our instinct, *Eureka*’s spiritual ether becomes the answer to how Divinity embeds ending within origin. The spiritual ether, through its force of repulsion, diffuses Matter that creates the Universe, and at the same time, the reaction to this diffusion ensures that everything will gather inevitably and become one again. To demonstrate the perfectness of Divine will and Divine operation, the narrator announces that “the great End” is achieved by the clusters of masses “rushing towards their own general centre” with an incredible speed guided by “their spiritual passion for oneness” (L 100). And then everything will collapse into one: the masses will “flash [...] into a common embrace. The inevitable catastrophe is at hand” (L 100). In other words, the Divine will is so effective that the celestial bodies comply with incredible speed and passion.

The narrator’s phrase of “rushing toward” is found in Lecture I of Nichol’s *Views of Astronomy*, when describing how the force of gravitation pulls stars “rushing toward a great central mass.”⁶⁶ However, the image of stars “rushing toward” is not how Nichol depicts the end of the Universe. In his Lecture V, Nichol relates that the end of the universe will occur “in its own quiet and majestic order, like the flower, which have adorned a speck of earth lets drop its leaves when its work is done, and falls back obediently upon its mother’s bosom.”⁶⁷ Although both Nichol and Poe interpret the end

66. Nichol, *Views of Astronomy*, 8.

67. *Ibid.*, 31.

of the Universe as the ultimate return engineered by Divine will, Nichol's vision is quieter, sweeter, emphasizing more on duty-fulfilling and reassurance. The image of a flower blooming and falling gently back to earth reminds us nothing of the commotion and speed suggested in the image of stars "rushing toward" the common center. In contrast, by employing the image of stars "rushing towards" Unity, *Eureka* insists on intensity, energy, passion, eagerness, and speed. While Nichol's end of the universe bears the peacefulness of a home, Poe's version presents the end as a "catastrophe" (L 100), something terrifying and threatening, because Matter does not exist anymore. However, there is still a sense of pleasure in annihilation, when everything will join each other "into a common embrace" (L 100), restoring the sons and daughters to Unity, "their lost parent" (L 34), as argued earlier by the narrator. In a word, by picturing the End of the Universe with paradoxical images of origin and destruction, passion for reunion and terror for annihilation, the narrator further demonstrates the true Symmetry operated by Divinity. Only in Divinity can death be ingrained within life, ending within beginning.

Having praised the power of true Symmetry by depicting the grandeur of the End of the Universe, the narrator ascends to the climax of the treatise and portrays a cyclic universe that does not end with the common embrace of the celestial masses. Instead, the annihilation inaugurates a new beginning: "a novel Universe swelling into existence, and then subsiding into nothingness, at every throb of the Heart Divine" (L 103). What is probably more shocking is that humans are positioned at the very center of this cosmic cycle, because this Heart Divine is "*our own*" (L 103). By offering a beautiful pattern of

life and annihilation embedded in the very pulse of the Universe, the narrator seems to be singing the anthem of Divinity, since *Eureka*'s depiction of the cyclic Universe provokes sensations verging on the sublime. The previous image of stars "rushing towards" their fate of annihilation echoes the image of a throbbing heart, since "rushing towards" imitates how the blood circulates back to the heart. If we consider *Eureka* as a dramatic presentation of God's cosmic plot, the images echo each other and convey a unified sense of vitality. As Conner has pointed out, both Poe and Nichol present "highly dramatic conclusions" of cyclic universes.⁶⁸ However, it is also worth noting that the difference between Poe the visionary and Nichol scientific popularizer is that not only are Poe's conclusions dramatic, the way he convinces the reader is also dramatic.

To conclude, before his counterarguments, the narrator already has announced that it is common for people to be misled by our symmetrical instinct to indulge in beliefs built on unsanctioned analogy. The set of beliefs concerning a central globe around which everything revolves and the material ether that causes the final collapse of the universe is a result of mistrust of "analogical references." As Poe's narrator refutes these beliefs one by one, quoting a variety of scientists who also reject the set of ideas, he also reiterates and develops the idea that one should renounce the beliefs caused by the pursuit of the "superficial symmetry" but follows the "essential symmetry." As a result, the narrator already has retorted the premise of the incorrect beliefs before dismantling the evidence of his opponents. Here again, the narrator follows the Baconian tradition and sets himself

68. Conner, "Poe and John Nichol," 196.

apart from the scientists: while scientists might be able to provide physical evidence that disproves unfounded beliefs, the narrator understands the source of the errors, or the false ground for the illusions. The narrator presents himself not only as a thinker who is well-versed enough in science to understand and report a scientific debate, but also as a thinker who can delve into the depth of human psychology and identify the fundamental trap or “idol” by which so many have erred. In addition, the narrator’s critique of the superficial symmetry does not end with exposing the false ground it stands on and the wrong conclusions it induces. Instead, the narrator moves on to assume the role of a prophet who teaches and celebrates the power of what is true and high, namely the symmetry of principle and the perfectness of cosmic plot authored by Divinity. The narrator relies on biblical allusions, religious imagery and tone, as well as a dramatized portrait of the End of the Universe designed according to the principle of simplicity and unity. Starting with error removal but ascending to sublime truth, the narrator impresses his audience by offering a blueprint of the Divine Design for the Universe that is much more unified, beautiful, awe-inspiring, imaginative, and poetic than what Mädler and other scientists have proposed.

3. Conclusion

An examination of Poe’s rhetorical strategies and stylistic choices in *Eureka* shows how competent Poe is as a writer constructing arguments that appeal to his audience. Via his narrator, Poe adjusts his strategies according to the identity of the scientists he incorporates and responds to. For a scientific authority like Newton, whose

reputation and validity has been founded formidably, the narrator leads the audience gradually to entertain the possibility that the narrator is also as an authority, if not higher and truer. Newton as an authority is not discredited, only transformed, so that the audience might perceive that science and imagination, or scientist and Poet, are compatible.

For a scientific authority like Laplace, whose faith in intuition echoes that of the narrator's but whose theory is challenged by physical evidence, the narrator guides the audience to see a clear distinction among merit, false weakness, and true weakness. After celebrating Laplace's merit as his "mathematical instinct" (L 70), the narrator defends Laplace against false accusations supported by childish speculations and immediate, physical evidence, before pointing out his true weakness. While articulating these distinctions, the narrator demonstrates that his own scientific credibility comes from intuition, a truer and higher guide to Beauty and Truth.

For scientific authorities like Mädler and others who develop Mädler's theory and believe in the material ether, the narrator rejects them ruthlessly by not only quoting other scientific authorities who have disapproved these theories, but also by dismantling the premise of the incorrect beliefs. In this way, the narrator follows the Baconian tradition and shows that his scientific credibility transcends the ability of joining a scientific debate or evaluating scientific beliefs based on physical evidence. The narrator is a scientist who can also pierce into the human mind and sees the source of errors or illusions. More importantly, the narrator presents himself as a scientist who can offer a

vision of the Divine arrangement for the Universe in a way that is more unified, imaginative, and sublime than other scientists have attempted, because he investigates the cosmic truth guided by the instinct for true Symmetry.

Just as announced by its narrator in the beginning of the treatise, *Eureka* challenges the authorities. The act of challenging is delivered frequently with rhetorical mastery, dramatic effect, and religious enthusiasm, exalting poetic instinct and imagination. In the treatise, the narrator criticizes Newton and Laplace for not being bold enough to step out of the realm of mathematics or physics to explore the true principle behind the phenomena in the universe. The narrator also regrets that Leibnitz does not have the right imagination to reach the right conclusions. Putting aside the fairness of these critiques, *Eureka* nevertheless insists on an intellectual and metaphysical height that denounces any physical, mechanical, or logical restraints. This height cannot be obtained unless one sees the scientist and the Poet as compatible. The ultimate knowledge of the origin, the structure, and the end of the Universe cannot be approached unless one embraces imagination with science, and Beauty with Truth. The narrator establishes and reinforces his credibility by unshackling constantly the audience from the safe, authoritative modes and perceptions. He also endeavors to impress the audience and teach with a language that matches the Beauty and sublimity of his discoveries.

By investigating Poe's rhetorical strategies and stylistic choices when he works with his scientific sources, readers might perceive how immersed the author was with his scientific sources, how seriously he had contemplated on the mechanics, benefits, and

limits of science of his day, and at the same time how *Eureka* is at the heart of Poe's cosmological, epistemological, rhetorical, and poetic manifestoes. This chapter wishes to serve as an invitation to future researchers to produce more scholarship concerning the ideas, contexts, language, and nature of *Eureka*, a work that is still understudied and frequently misunderstood. Also, new or fuller interpretation of Poe's other writings, especially less studied ones and extremely puzzling ones, can also be ventured in the light of *Eureka*.

EPILOGUE

Though it was received lukewarmly at the time of its publication in 1848, *Eureka* seemed to have extended its intellectual life into the twentieth century across languages and cultures. The enthusiastic voice of the speaker of the treatise seems to have returned: “*What I here propound is true:—therefore it cannot die:—or if by any means it be now trodden down so that it die, it will ‘rise again to the Life Everlasting’*” (L 5).

Until recently, most people were unaware that Albert Einstein read and actually praised Poe’s *Eureka*. It happened eighty-four years after Poe’s death: Einstein visited the United States, and one of his letters, dated December 13, 1933, documents his intent of reading Poe’s treatise. Writing in German to Richard Gimbel, an American Poe collector, Einstein expressed his respect for Poe as an American innovator: “I will gladly read the story by the master and tell you in all modesty what I think about it. I am sorry that I cannot come to dinner, but I am happy that America does not forget its creative sons.”¹ A little over three weeks later, on 7 January 1934, Einstein again wrote to Gimbel and related that he had read the opening section of *Eureka*. Einstein lauded *Eureka*’s letter from the future, which critiques the methods of inquiry commonly accepted by the nineteenth century as “a very beautiful achievement of an extraordinary independent mind.”² Although he did not read the rest of *Eureka*, Einstein commented that Poe’s

1. Albert Einstein to Richard Gimbel, December 13, 1933, quoted in René van Slooten, “Edgar Allan Poe or Albert Einstein: Who Was the Greatest Thinker of All Time?,” *Baltimore Post-Examiner*, December 28, 2013, baltimorepostexaminer.com/edgar-allan-poe-albert-einstein-greatest-thinker-time/2013/12/28.

2. Albert Einstein to Richard Gimbel, January 7, 1934, quoted in van Slooten, “Edgar Allan Poe or Albert Einstein.”

“attempt of a complete cosmogony” attests to how “a free mind” like Poe’s could not but help being “bound to its era.”³ In other words, Einstein remained reserved yet appreciative of Poe’s ambitious project. Almost immediately, the scientist saw the value in Poe’s art and mind.

However, Einstein’s initial attitude seemed to have changed sharply in 1940. After a complete perusal of *Eureka*, as was requested by Arthur Hobson Quinn, the major Poe biographer, Einstein “suddenly and strongly denied having read ‘Eureka’ before and his critique was slashing. He even went so far as to call Poe ‘a pathological personality.’”⁴ René van Slooten argues that by reading the complete *Eureka*, Einstein must have discovered that Poe’s ideas not only “anticipated his [Einstein’s] own theories about the velocity of light, space-time and matter-energy,” but they also echoed “ideas that he had opposed strongly for many years, like the dynamic universe and the ‘Big Bang.’”⁵ Van Slooten claims that the even bigger shock for Einstein lay in Poe’s implied challenge to Einstein’s general theory of relativity, since Poe had envisioned a universe in which gravity was not the most basic force. Van Slooten therefore concluded his report on Einstein’s unnecessarily antagonistic denial of his connection to Poe with a sense of regret.

3. Ibid.

4. Albert Einstein to Arthur Hobson Quinn, 1940, qtd. in van Slooten, “Edgar Allan Poe or Albert Einstein.”

5. Van Slooten, “Edgar Allan Poe or Albert Einstein.”

Although there is the risk of overstating *Eureka*'s foresight over Einstein (or over any other contemporary scientific revolution), the degree of Einstein's vehemence reflects the fragile nature of innovation. It is a matter of who said it first, but perhaps it is even more a matter of where and how it was said. Perhaps Einstein was rightfully worried that his own scientific innovation, even independently made in reality, would still be undermined if there were a perceived affiliation between himself and a visionary poet. Perhaps it was more disturbing for Einstein to see how high a poet, not a fellow scientist, could soar using the wings of intuition and artistic power.

The story of Einstein as an elusive reader of Poe replays the epistemological problem faced by Poe in *Eureka*. How can a poet convince the audience that his words on the cosmos have value? Who should have the authority to contemplate and present the knowledge on the material and spiritual Universe?

Einstein's contradictory attitude toward Poe and *Eureka* not only mirrors Poe's epistemological concerns, but it also proves the accomplishment of Poe. The value of Poe's treatise lies in part in its scientific validity, as several well-respected scholars have shown how Poe's beliefs anticipate the scientific theories today.⁶ More importantly, *Eureka* is valuable because it also compels readers to think beyond the customary

6. For instance, Harry Lee Poe states that Poe's speculation on the beginning of the Universe echoes today's Big Bang Theory except for a few discrepancies (*Evermore* 153). Mihai A. Stroe considers Poe as the forefather for chaos theory, Big Bang Theory, Big Crunch Theory, and parallel universe. Edward Harrison looks into Poe's future and believes that *Eureka* offers "the first anticipation of a formally correct solution" (148) to Olbers's Paradox. Susan Manning considers Poe's cosmological conclusions a mixture of seriousness and hoax that anticipates the postmodern "self-designing, self-annihilating systems" (251). Ruth M. Harrison reads Poe's treatise as anticipating today's chaos theory and the fractal system. R. Harrison also contends that Poe should be understood as the "forefather of the postmodern fascination with chaos, paradox, and self-reference" (43).

boundaries and demarcations, science vs. literature, physical evidence vs. abstract speculation, mind vs. body, truth vs. aesthetic power, etc. The treatise encourages readers to see conflicting agents as an invitation or motivation for us to work them into unity. This unity does not eliminate differences, but binds differing elements to work together for a higher truth, which is Beauty (as Truth) in Poe's case.

Understanding what *Eureka* achieves or symbolizes leads to investigating how Poe worked with science to develop this unity throughout his career, because the claims in *Eureka* were not simply a product of wild fancy or nocturnal revelation. An abiding and serious interest in science was an indispensable aspect of Poe and his creative career. While scientific knowledge might have been presented by "Sonnet—to Science" as a threat to the poetic vision or as a shackle to the poet's aesthetic pursuit, it was almost immediately invited into Poe's artistic creation. Science informed and stimulated Poe to explore the limits of human capability and question epistemological authority. More importantly, science assisted Poe to envision a universe reigned by the principles of Unity, Symmetry, and Beauty.

My study concentrates primarily on four works and their interrelated significance. Although these works are central to delineating the evolving role of science in Poe, they do not reveal the full story. Further studies, for example, could focus on the late 1830s and early 1840s of Poe's life, when his engagement with science intensified and he actively studied, evaluated, and incorporated scientific discoveries and theories in his

writings, both literary and critical. In addition, Poe's engagement with popular scientific writings, which has been studied by some scholars, is worth further investigation.⁷

Seriously examining science in Poe encourages us to look more closely at other nineteenth-century American literary authors' relationships with science. Currently, an abundant and diverse body of scholarship examines the dynamic between nineteenth-century British literature and science.⁸ In contrast, larger-scale critical conversations on nineteenth-century American literature and science are relatively scarce.⁹ Collectively, these studies paint a limited picture of science and the literary world of nineteenth-century America. We need more. In addition, scholars would profit from looking beyond scientific references in major literary writers to discuss the cultural impact of science in American society.

7. Scholars have identified Thomas Dick, David Brewster, and John Pringle Nichol as the major science popularizers whom Poe read and incorporated into his works. For instance, Margaret Alterton, in her *Origins of Poe's Critical Theory*, demonstrates that Poe has heavily relied on Thomas Dick and David Brewster. Stuart Levine and Susan F. Levine, in their annotation of *Eureka*, show that Poe gathered, sifted, and appropriated excerpts from the respective writings of Thomas Dick, David Brewster, and John Pringle Nichol. However, more extensive discussions could be produced on how Poe appropriated and responded to these (and other) scientists.

8. This body ranges from the classic studies offered by George Levine's *One Culture: Essays in Science and Literature* (1989) and Gillian Beer's *Darwin's Plot: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction* (2000), to the recent studies of Ralph O'Connor's *The Earth on Show: Fossils and the Poetics of Popular Science, 1802-1856* (2007) and Anna Henchman's *The Starry Sky Within: Astronomy and the Reach of the Mind in Victorian Literature* (2014).

9. Major investigations on science and Henry David Thoreau's writings of nature include Laura Dassow Walls's *Seeing the New World: Henry David Thoreau and Nineteenth-Century Natural Science* (1995) and Frank Stewart's *A Natural History of Nature Writing* (1995). Brett Zimmerman examines Herman Melville's astronomical knowledge in *Herman Melville: Stargazer* (1998) while Samuel Otter, in his *Melville's Anatomies* discusses how Melville's knowledge in anatomy and physiology inform his perception and literary presentation of the human body. Laura Dassow Walls, in her *Emerson's Life in Science: The Culture of Truth* (2003), relates how a wide range of scientific works and theories helped Ralph Waldo Emerson become the American Scholar.

One salient question to ask is how we should approach texts written seemingly outside the writer's sphere of expertise. Or, what should we look for in writings that cross disciplines and combine logic with imagination? It is not difficult to find contemporary scholars who dismiss the scientific validity of Poe's *Eureka* or evaluate the treatise solely based on Poe's comprehension of the science of his day. Robert Chambers's anonymously published *Vestiges of the Natural History of Creation* (1844) provides another example of the problem of reception and evaluation. The book of cosmogony and evolutionary thoughts, albeit a sensational hit among its Victorian readers, had long been marginalized in the modern scientific community because it was not a professional scientific treatise. This common perception was challenged successfully by James A. Secord's study, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of "Vestiges of the Natural History of Creation"* (2000).¹⁰ Secord convinces the reader of the significance of *Vestiges* by recovering the missing stories of how scientific ideas were presented, circulated, read, and reflected upon across almost all layers of the Victorian population. As a result, Secord's investigation sets up a great example not only for the study of the history of science but also for Poe studies. When evaluating the role of science in Poe's creative life, rather than overanalyzing the author's understanding of the science in his day, one needs to investigate how scientific discoveries, methods, or debates provide new materials or platforms for the author to reason with and innovate.

10. James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of "Vestiges of the Natural History of Creation"* (Chicago: University of Chicago Press, 2000).

Exploring innovative hybrids like Poe's and Chamber's can renew our perception of learning and creativity. Poe contended that science would not be true to its name were it to exclude imagination. Indeed, even while science today has evolved to be something easily out of the reach of an untrained person, it still offers much to anyone who enjoys, studies, or lauds literary imagination. Both science and literature wrestle with fundamental human problems—the origin and end of the universe, pain, pleasure, injustice, life purpose—and they both require creativity and command innovation.

Some scholarly entities—societies, conventions, programs, for instance—have made efforts to bridge science and literature in the context of their social influences. However, there are few who can truly walk between the two fields. For example, regrettably, a study of a literary author's interaction with science could very often receive opposing reviews from a literary journal and a scientific journal. This contrasting evaluation indicates that the two fields need to learn more about the other's research tenets and methods for more productive conversations. As a literary person, I wish there were courses on the history of science in the curriculum of literature programs.

Granted, Poe himself was not truly a walker between science and literature, but he was one who advocated, vehemently and artistically, for the union of the two. It will be more productive if we put aside the question of “credibility” (narrowly bound and enforced by disciplines and professions) and look for a higher reason for crossovers. It is precisely for this unifying vision that we might appropriately quote Poe again: “*What I*

here propound is true:—therefore it cannot die:—or if by any means it be now trodden down so that it die, it will ‘rise again to the Life Everlasting’” (L 5).

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