



2016-06-01

# Poe's Entangled Fiction: Quantum Field Theory in "The Colloquy of Monos and Una" and "The Mystery of Marie Rogêt"

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Poe's Entangled Fiction: Quantum Field Theory in

"The Colloquy of Monos and Una" and

"The Mystery of Marie Rogêt"

Jean A. Little

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of

Master of Arts

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June 2016

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## ABSTRACT

Poe's Entangled Fiction: Quantum Field Theory in  
"The Colloquy of Monos and Una" and  
"The Mystery of Marie Rogêt"

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When seen among the constellation of Edgar Allan Poe's works culminating in *Eureka*, "The Colloquy of Monos and Una" and "The Mystery of Marie Rogêt," take on an important role as vehicles for scientific contemplation. Similar to early quantum physicists, such as Einstein and Schrödinger, Poe uses macro-level analogies to explore the unity of individual entities, which becomes an important tenet of his explanation of the universe. His thought experiments also resemble those of modern physics in their approach to reality as probabilistic, an idea that finds its echo in quantum field theory, which distinguishes between observed particles and their underlying existence as vibrations in a field rather than distinct units.

In this thesis, I use specific examples from "Monos and Una" to demonstrate that the barrier between individuals blurs when viewed from the perspective of a unified field. I also explore ways that "Marie Rogêt" expands the idea of a unified field in terms of entangled individuals and correlated events, and pushes against the Newtonian deterministic tradition.

In the context of Poe's body of work, these stories depart from the aesthetic that characterizes many of his most widely-read stories, in that their exploration of the scientific seems to overtake the narrative. However, their composition, which leaves some readers dissatisfied, expertly comments on the dichotomy between the observed and the real, and the role that narrative plays in interpreting experience.

Keywords: Edgar Allan Poe, Marie Rogêt, Mary Rogers, Monos and Una, quantum, physics, entanglement, reality, probability, causation, determinism, Eureka, Dupin

## ACKNOWLEDGMENTS

I owe special thanks to Dr. Ed Cutler for his encouragement and mentorship. His classes opened a world of ideas for me, his confidence in my work gave me courage and motivation, and his insights helped me find a new perspective. I express my deepest appreciation to my two committee members, Drs. Emron Esplin and Dennis Perry, for their practical advice and thoughtful questions. I am also indebted to Chris, without whose support and flexibility this project would not have been possible.

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Poe's Entangled Fiction: Quantum Field Theory in "The Colloquy of Monos and Una" and "The  
Mystery of Marie Rogêt"

Men have called me mad; but the question is not yet settled, whether madness is or is not the loftiest intelligence—whether much that is glorious—whether all that is profound—does not spring from disease of thought....

— Edgar Allan Poe, "Eleonora"

For the essential in the being of a man of my type lies precisely in *what* he thinks and *how* he thinks, not in what he does or suffers.

— Albert Einstein, *Autobiographical Notes*

In addition to holding the status of a proto-modernist by merit of the inventiveness and subsequent transmitted influences of his work, including the creation of new genres like detective fiction, Edgar Allan Poe has also gained recognition for prescience with regards to scientific ideas that researchers would not develop for many years. As a result of his foray into cosmology in *Eureka*, among other works, scholars also credit him with being an early inventor of speculative fiction. Poe's interest in cosmology borders on planetary physics in the way he represents the laws of gravity and attraction, among other things—an interest that clearly plays out in works that seem to reflect the order of Newton's clockwork universe. However, a significant portion of his oeuvre takes an opposing stance, offering a wholly improbable set of events from the standpoint of conventional empiricism and intuition. A number of examples among the seldom anthologized works of Poe push the boundaries of even the most advanced scientific accounts in his time. Some of his most dynamic ideas relate to probability, temporality, and the limitations of the human perspective.

As calculated investigations of these themes, "The Colloquy of Monos and Una" and "The Mystery of Marie Rogêt" take on particular significance because they seem to presage some of the main implications of the quantum revolution. These tales become examples of Poe's "world of the mind" (Van Leer 201) by focusing on the relationship between perception and

reality—a relationship that finds its mirror in twentieth century quantum field theory—a branch of quantum mechanics that recognizes the relationship between entities that *appear* to be distant from one another but that actually maintain a local connection because they exist within a field. Quantum field theory, which originated in the 1920s as physicists studied the implications of Einstein's relativity, has changed the way the scientific world defines reality in a few important ways. It recognizes unity between bodies that previously seemed separate from one other; this connection relies on the unity of time and space as a single entity (spacetime), as opposed to earlier models that defined space and time as independent. Similarly, Poe's tales destabilize the traditional understanding of reality within time and space and aggressively push the limits of conventional rationality by exploring the unity between entities and events, as exemplified by another concept in quantum physics called entanglement, which looks at the unity between particles that seem too far apart to be considered local. A final principle underlying both quantum physics and Poe's tales of speculation takes reality as probabilistic at its core, meaning that outcomes only exist as probabilities until the moment that they are observed and defined. Drawing these comparisons is not to suggest that Poe predicted the quantum revolution, but rather to highlight the ways in which his methods for working through ideas mirror the type of thinking—using analogies—that would play a key role in the development of principles of modern physics.

Poe's foray into the scientific mode reflects much more than the idle musing of a madman, in spite of his widespread reputation for dwelling on the uncanny and unsettling—a tendency which may have contributed to the fact that his writing was not very highly regarded among literary circles in the United States until long after his death. Although his work may not have had a strong traceable influence on science, recent scholars have shown interest in the ways

that Poe's work reflects scientific ideals from both the nineteenth century and the present. In *Uncertain Chances*, Maurice Lee traces the way that Poe and other writers during the romantic period pushed the boundaries of their time, paving the way for a new wave of science that would begin to take hold in the 1890s. Another scholar describes Poe's intuitions as seeming "much more at home in the twentieth- and twenty-first centuries in the age of relativity and quantum theory – than they did in the nineteenth century" (Taylor 58). Whether he should be classified as reactionary or visionary remains a matter of opinion, but Poe certainly considered his own ideas both groundbreaking and relevant, particularly regarding the publication of *Eureka*. According to one of his biographers, Poe claimed that his work was more important than Newton's law of gravity (Meyers 219), although it never attained quite the level of renown that he might have hoped.

While *Eureka* has failed to stand as Poe's most well-known or influential achievement, it certainly resonates with ideas that he explored in earlier works. A number of contemporary scholars have studied the relationship between *Eureka* and Poe's earlier writing, occasionally tracing the way his ideas develop over the course of his career (Rachman, McGhee, Anderson). Their work proves both important and insightful in providing a context for Poe's cosmology which, as they aptly point out, represents ideas that evolve over several years of contemplation. The way that these ideas emerge within his fiction provides insight into his distinctive method for processing information. In addition to outlining theoretical precepts that underlie the narrative in both "The Colloquy of Monos and Una" and "The Mystery of Marie Rogêt," which bear such a striking resemblance to those that make up quantum field theory and entanglement, this essay will examine how these texts exemplify both Poe's propensity for pushing against the deterministic way of thinking that pervaded his era and his desire to unify concepts from

multiple disciplines. Ultimately, these works act as analogies for a unique take on reality. After providing context as to where these two stories fit into Poe's journey to *Eureka* and outlining the scientific principles that they engage, this article will use specific examples from "Monos and Una" to understand how the relationship between individuals changes when viewed from the perspective of a unified field of existence. Then it will consider how "Marie Rogêt" expands the idea of a unified field in terms of entangled individuals, correlated events, and the resulting implications for perceiving the real.

### Quantum Theory

We cannot be certain about the exact moment that Poe imagined *Eureka* as the logical outgrowth of his previous work. Stephen Rachman, for example, sees its seeds in Poe's earliest publications (2), while Douglas Anderson suggests that "Descent into the Maelström," written in 1841, marks the pivotal point from which Poe's fiction begins to form "an ever tightening circle, eventually finding release in ... *Eureka*" (76), which grew out of a speech that he delivered at the Society Library on February 3, 1848. Poe published "The Colloquy" and "Marie Rogêt" in 1841 and 1842 respectively, more than sixty years before Einstein's theories of special and general relativity would demolish the idea of time as a universal constant, and nearly a century before the work of Schrödinger, Heisenberg, and others would demonstrate that Newtonian causality breaks down when considered at the level of the subatomic particle. While these physicists' work often incorporates macro level analogies, such as Einstein chasing a light beam or Schrödinger's cat, they culminate in mathematical proofs and experimentally verified data. The connection between these analogies and their logical proofs is, as Einstein has said, "purely intuitive" (*Autobiographical Notes* 11). In contrast, Poe's analogies—and intuitive ratiocination—grew into a self-declared prose poem that claims that "Poetry and Truth are one" (*Eureka* 96).

The fact that the concepts of intuition, unity, and probability found their way into Poe's fiction should not come as a surprise. In the early nineteenth century, the most advanced scientific ideas grew out of Newtonian determinism, which posited that the universe was governed by mathematical laws that could guarantee the absolute predictability of the future based on the location and velocity of a complete set of particles at a given point in time. Poe was certainly well-versed in science. In their introduction to *Eureka*, Stuart Levine and Susan Levine confirm that most of the astronomical information in the text is consistent with the most advanced scientific thinking of his day. And, although it is true that Poe did not "magically predict Einstein" (Levine xx), he did explore the tension between traditional scientific beliefs and their implications through narrative, just as Einstein did during his twenties and early thirties while he was developing his theories of special and general relativity.

In his most famous thought experiment, Einstein imagines pursuing light wave at speed  $c$  (the speed of light), puzzling about whether he would catch up to the wave and perceive the light as frozen, or if it would continue to speed away from him at a constant velocity (*Autobiographical Notes* 49). In 1905, Einstein rode in a streetcar home from the patent office in Bern, gazing at the local clock tower. Some have speculated that it was precisely during one of these trips that he imagined travelling away from it at the speed of light, and realized that the clock tower would appear to have stopped ticking because the visual data wouldn't be able to catch up to him, although his own pocket watch would continue at the expected rate. The intuitive connection between these sense experiences and the associated scientific properties proved highly provocative in the development of the theory of special relativity.

Like Einstein, Poe imagines how continuous motion would affect the experience of time in "A Descent into the Maelström," as he represents a mariner spinning into the watery vortex

during a storm. Poe's mariner emerges from the torrent with white hair, a look that is so distinct that his old mates do not recognize him because his "hair which had been raven-black the day before, was...white" (Poe 594). Recognizing the change in hair color as a sign of the aging process, rather than simply the expression of a gothic trope in response to the horror of the experience, connects the story to a main tenet of relativity. The tale's narrative outcome bears a marked similarity to the conclusion that would make Einstein the most influential scientist in modern times: the passage of time is relative to the position and velocity of the observer.

In order to understand how Poe's exploration of this and other scientific themes plays out in narrative, it can be helpful to have a basic knowledge of some of the tenets that shaped physics in the early 20<sup>th</sup> century. The special theory of relativity, published in 1905, had its greatest impact on the accepted laws for matter that travels at velocities close to the speed of light, particularly for subatomic particles. In his book *Relativity: The Special and General Theory*, one of Einstein's main concerns is the principle of locality, noting that "action at a distance with the velocity of light always takes the place of instantaneous action at a distance" (63). His General Relativity, published in 1915, is a theory of gravity that obeys locality, meaning that it recognizes the influence of gravity on spacetime as proportionate to the proximity of the surrounding matter. Although Einstein's work contributed significantly to the development of quantum mechanics, it was his reliance on the principle of locality that in part led him to challenge some of its implications.

In 1935, Einstein, Podolsky, and Rosen published a paper, called "Can Quantum-Mechanical Description of Physical Reality Be Considered Complete," which outlined what became known as the EPR paradox—which Schrödinger would aptly call *entanglement*—and highlighted a finding that seemed to violate locality. What they described was a phenomenon in

which two systems separate after conditions of mutual influence, but still remain entangled to a degree that the measurement of one particle would simultaneously yield information about the other. Within only a few months, Schrödinger would refer to this as “not *one* but rather *the* characteristic trait of quantum mechanics” (“Discussion” 555). Einstein is known for having called this type of action at a distance “spooky” because it relies on the experimentally and mathematically-proven contingency that altering the state of one particle would automatically alter the state of the other. Due to the fact that the change in states happen faster than the speed of light, there is not time for information to be passed between the two particles, which seems to imply that they somehow have a non-local connection.

Almost immediately upon its having been written, Nils Bohr got wind of the work that Einstein was doing and wrote a rebuttal, which he also titled “Can Quantum-Mechanical Description of Physical Reality Be Considered Complete?” and published in the next edition of *Physical Review*. In his article, Bohr took issue with the belief that “every element of the physical reality must have a counterpart in the physical theory” (EPR 777), and used the Theory of General Relativity as the basis for a call to “renounce the customary separation of space and time ideas” (Bohr 701) in favor of “a radical revision” (702) of attitudes about reality. Rather than accepting the failure of locality in the case of entangled particles, Bohr claims that realism fails. In other words, entangled particles don’t violate locality, but we will never understand why unless we are willing to relinquish the idea that observations accurately measure reality. In his paper, Bohr’s conclusions reveal a precept of the new generation of physicists that Einstein would struggle with for the rest of his life, in spite of the fact that Einstein’s own work was a catalyst for this quantum revolution.

The idea that observation itself produces a skewed picture of reality continues to influence every other area of quantum mechanics. Early field theories, which started to emerge around the same time as studies on entanglement, provide the necessary explanation: what we observe as particles only exist as fields of energy until the moment that we observe them. Researchers describe these fields by estimating the probability that a given particle would manifest in a certain state upon examination. Actual observation and measurement of a particle presents a distorted image. Even though close observation makes it look like the world is made up of tiny particles that sometimes behave like waves, it is actually made up of fields of energy.<sup>1</sup> Fields don't have the same kind of separation that particles do, which means that the location and action of observed particles must be inherently probabilistic because the correlation between observation and reality is not one-to-one. Even when observation facilitates an exact description of one characteristic of a particle, an "inherent uncertainty" (Heisenberg 10) prohibits the simultaneous measurement of a second variable, another testament to the necessity of relinquishing the perception that observed reality has a causal relationship with its position in time.

The idea that reality would be essentially probabilistic instead of deterministic, that the circumstances of an event (defined as the intersection between time and space) would be not only relative to but also defined by an observer, and that matter might be entangled, were among the disconcerting radical ideas that would cause Einstein to resist the new physics and to declare

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<sup>1</sup> One of the first proponents of a probabilistic conception of the natural world, Pierre-Simon Laplace considered gravity in terms of locality when he suggested that gravity might be understood as a field rather than as a force and created what is now called his gravitational potential field equation.

on many occasions that he was “unable to believe in a dice-playing God” (The *Born-Einstein Letters* 152).

In his later years, Einstein’s stubborn resistance to quantum mechanics represents a marked change from the creative outlook that led him to revolutionize the world of physics. During his most productive years, Einstein had rejected principles and laws that some of the most enlightened thinkers had relied on for centuries. And it was likely this rebellious zeal, coupled with a characteristic stubbornness, that facilitated the birth of his most influential ideas.

Like Einstein, Poe was not content to simply learn and accept the ideas that grew out of the scientific revolution. A number of scholars have pointed out that Poe had a strong understanding of the science and mathematics in the public domain of the nineteenth century, many of them exploring in-depth the validity of the claims that Poe made in his scientific treatise, *Eureka* (Lee, Swirski, Quinn, Taylor). However, scientific themes run through his other writing fairly frequently; and when scientific ideas show up in his fiction, he rarely leaves them uncontested. Instead, Poe examines a given principle from several different angles, often in several different stories, considering its implications in ways that question whether the scientific understanding of the world reflects a true understanding of reality. Poe’s fiction becomes a way to stage analogical thought experiments of his own, not unlike those of Einstein and his contemporaries.

We see this analogical staging, and a push back against blind acceptance of science as absolute fact, in “A Descent into the Maelstrom” when the mariner must part ways with his brother because he recognizes a pattern in the movement of objects within the whirlpool that seems counterintuitive, and ultimately harnesses this pattern as a means of escape. In “Some Words with a Mummy,” we see it in the mummy’s denial that any of the modern scientific ideas

are new or progressive. In “The Thousand and Second Tale of Scheherazade” we see it when the King easily accepts the existence of sky-blue cows and pink horses, but can’t conceive of “fish that had no eyes” (1161) or “a deep darkness out of two brilliant lights” (1168), which is one way of describing light-wave superposition, a known phenomenon in Poe’s day. These are just a few of many examples that seem calculated to speculate on the existence of truths that modern and enlightened minds might also dismiss as improbable or inconceivable.

### Monos and Una

If reality, as Poe’s work so often suggests, is woefully inconsistent with sensory perception, does he offer any way to escape this limited perspective? In *Eureka*, he nearly admits defeat when he confesses that he “cannot conceive Infinity, and [is] convinced that no human being can” (19). Still, he makes the attempt in “The Colloquy of Monos and Una” by giving identity to the infinite, which is represented by the two lovers Monos and Una. The fact that both of these names can be translated to “one,” from Greek and Latin respectively, gives credence to the possibility that this piece could be interpreted as a meditation on an entangled unity. Rather than existing as two separate entities, they paradoxically form a unified part of a field of existence, though ostensibly separate.

“The Colloquy” is a conversation between the two in which Monos traces his progression from life into death, which he equates with being “born again” (608) into a state of harmony with the universe. Although this descent takes place at the macro level, as opposed to the level of atomic particles, it seems surprisingly similar to an assertion found in *Eureka*, in which Poe discusses the cosmological possibility of all matter having descended from the “absolute Unity in the primordial Particle” (23) and the “tendency of the disunited atoms to return into One” (25). As Monos recounts the deterioration of his body, he focuses on the metaphysical, specifically

pointing out that his “idea of entity was becoming merged in that of *place*” (“Colloquy” 616) as his physical body mingles with the dirt surrounding him. In this way, the atoms of his body have literally become one with the earth.

This story, in addition to considering the implications of death (Quinn 325), takes scientifically sound principles—namely, the process of bodily decomposition—and recontextualizes them as ontological. What happens to a person’s concept of self when the self becomes absolutely integrated with its surrounding environment? And conversely, if there is a point in time when the self reaches complete unity with another system, can the attempt to define the *real* in terms of human experience retain meaning? Or is reality merely a construct based on a limited perspective? Throughout “The Colloquy,” Monos doubts traditional human perspectives, wanting to avoid the error of trying to “define the undefinable” (609) or attempting to control “the natural laws” (609).

Paramount among the natural laws whose majesty Monos wants to protect is that of Time. Rather than defining the moment of his death, Monos insists on referring to “a point in the vague infinity” (612), as if to distance himself completely from time as a concept measurable by hours, days, months, and years. He is, however, far from denying the existence of time whatsoever. As in the poem “Dream-Land,” in which the narrator finds himself “Out of Space – out of Time” (344), Monos is no longer limited by the traditional notions of space and time. Instead, he experiences a “pendulous pulsation” (615) which allows him to become so in-tune with “the moral embodiment” (615) of time that he recognizes the imperfection of the clocks in the room where his dead body rests. It is interesting to note that it isn’t until Monos has no pulse of his own that he approaches unity with the pulse of the universe. And once he is free of the bonds that define human time by ticks on a clock, he makes the startling observation that not

only does each clock mark individual seconds differently, but that *duration* itself exists “independently of any succession of events” (615). Time seems to have merged with the field of eternity; and units of time as observed, which previously had seemed so uniform and predictable, now take on a random quality that is almost relative and probabilistic. The ticking of these clocks not only exemplifies human failure to accurately assess the meaning of time in terms of eternity, but it also represents a new perspective that recognizes simultaneity as relative. Just as the Theory of Special Relativity redefined time in terms of the relative sequence of events, whose duration and order can change according to perspective, Poe uses this tale to explore the idea of time as disconnected from a definitive event.

As time becomes less a matter of defining a sequence, and more a matter of unity between humans and nature, it opens the door to another question: is there also an eternal connection between individual people? “The Colloquy” is not a story of the tragic separation of lovers. Quite the opposite. Monos, in his newly enlightened state calls Una “mine forever now” (608), a possibility that is affirmed in the penultimate paragraph of the piece: “upon *my* mouldering bones there descended the coffin of Una” (616). Here, it is not the reciprocal nature of their love that binds them for eternity, but the literal mingling of their atoms as they decay. Even though “the light of enduring love” (616) comes close to awakening Monos from death, it becomes “extinguished” (616) as his perspective morphs from temporal to eternal and he loses nearly everything that might be considered proprietary. Still, in the last line of the tale, Monos retains a type of existence, dominated by “the autocrats *Place* and *Time*” (617). Place and time don’t cease to exist when understood in terms of field theory, becoming combined instead into a single continuum. Once we recognize the system as unified, individual particles are more accurately described as vibrations in the field. By considering life as a point on an infinite

continuum that Poe believes is destined to collapse into unity, Poe's narrative draws out the possibility that individual experience is nothing more than a single perspective within a collective.

In "The Colloquy," Poe offers an extended meditation on the exact definition of death, suggesting that existence does not end with what is "termed *Death*" (612). He also, as I have previously discussed, reflects on time, concluding that the metered seconds, minutes, hours, etc. are in opposition to the eternal laws of natural time. Because these ruminations occur in the framework of telling a love story, the core of their significance, for Poe, is humanistic. Can people become, and remain, entangled without violating the precepts of natural laws? Just as two entangled particles defined by the same wave function maintain a non-causal connection, can a similar connection exist between individuals? The answer lies in the final sentence of his tale. Even though existence is "soulless... for all this nothingness, yet for all this immortality, the grave [is] still a home" (617). In context, the word "home" sharply contrasts with the word "nothingness," offering a conclusion that details an estrangement from self without implying absolute solitude, and invokes the ideas of refuge and safety.

When understood in terms of a type of field theory, the recognition that Monos has come home becomes a matter of a changed perspective. While living, Monos would have adopted the mortal view of individuality. Two people cannot experience literal oneness because of their separation in space and their relative position in time. But just as death has brought a new understanding of time on an eternal scale, it has altered Monos's perception of locality. Both he and Una (and indeed, all other humans) have unwittingly lived in an eternal world, their observed separation may not be as fixed as they had assumed. Just as entangled particles within a field maintain a non-causal connection, Monos and Una have been entangled all along.

Becoming physically united in death provides a new perspective, but one that is not limited to their current state of decay. Given the fact that death has allowed Monos to become privy to a host of other truths about eternity, this new revelation suggests that absolute individuality is not something that he has lost in death, but something he never had to begin with.

It is possible to call into question the appropriateness of using the word entanglement with relation to Monos and Una, namely, because their unity throughout the story does not necessarily violate the principle of locality. At his funeral, Monos is susceptible to the influence of Una's touch and voice in part because of her proximity. Also, the conversation between the two takes place because the two lovers share a grave. If Poe is to perform a thought experiment regarding the possibility of two entangled lives that do not rely on love as their primary source of connection, he takes advantage of the opportunity to do so in "The Mystery of Marie Rogêt."

#### Marie Rogêt

Written roughly a year after "The Colloquy," "The Mystery of Marie Rogêt" has occasionally been heralded as a masterful work of detective fiction (Benton and Sayers). However, many scholars regard it as inferior to Poe's other two tales of ratiocination. Maurice S. Lee gave one reason for this, saying that "statistical reasoning proves an aesthetic liability" ("Probably Poe" 236). This charge is likely related to the fact that Poe wrote this story in response to an underway investigation. Before the third installment of the story was published in Snowden's *Ladies' Companion* there was a breakthrough in the case, and Poe altered his ending to ensure that the details of Dupin's conclusion aligned with those of the real life events of Mary Rogers who, according to the deathbed confession of "a delirious woman" (Mabbot 719) named Mrs. Loss, was not murdered at all but died as a result of a botched abortion.

In *The Mystery to a Solution*, John T. Irwin points out the difference between the narrative structure of “Marie Rogêt” as compared to the other two Dupin stories, “The Murder in the Rue Morgue” and “The Purloined Letter,” which culminate with the grand unveiling of the criminal’s method and leave the reader with a feeling of awe and a sense of closure. In contrast, the narrator’s quick summary of the outcome—likely brought on by the sudden and unexpected resolution of the Mary Rogers case—and subsequent discussion of mathematics, are far less satisfying to the casual reader. John Walsh has argued very convincingly that Poe delayed its final installment by a month in order to incorporate the confession into his conclusion. If this move would be entirely detrimental to the aesthetics of the piece, why did Poe believe it was so important to keep the details of his fictitious case in perfect alignment with the real case?

An alternative interpretation of the entire narrative surfaces when we consider the introductory and concluding discussions as bookends that shed light on its literary and scientific interpretation, rather than assuming that the narrator’s final discussion of probability is a backpedaling attempt to defend a tale gone awry. “The Mystery of Marie Rogêt,” in addition to being a relatively successful attempt at analytical detective work, is also a scientific thought experiment on the implications of Laplace’s probability theory in the context of Poe’s own metaphysical paradigm, which hinges on the governing principle of unity. The resulting tale explores the entanglement of two otherwise independent girls named Mary Rogers and Marie Rogêt.

The layout of the story mirrors the epigraph, taken from Novalis: “There are an ideal series of events which run parallel with the real ones. They rarely coincide. Men and circumstances generally modify the ideal train of events, so that it seems imperfect. And its consequences are equally imperfect. Thus with the Reformation; instead of Protestantism came

Lutheranism” (723). As in field theory, observed outcomes only *seem* to resemble reality. What’s more, any observation of the ideal alters both its state and its trajectory in such a way that its connection to the real can only be described in terms of probability. Ideals “do not have a simultaneous reality – and thus definite values” (EPR 2); they only appear to have a single state once they are measured. Given this interpretation, “Marie Rogêt” represents not the ideal series of events, but rather the intersection between the ideal and the real. Does the outcome of a narrative change what we think about life events, or do the life events change what we think about the story? The two become entangled and we can’t always tell whether their relationship is causal or simply that they run parallel in a way that seems paradoxical from an observer’s perspective.

As if to highlight this very point, Poe begins the story with a discussion of coincidence, and more specifically the occasional occurrence of events that seem so related that “the intellect has been unable to receive” (“Marie Rogêt” 723) them as *mere* coincidences. The implication here seems to be that the mind may have unconscious access to a type of experiential field theory, an idea that Poe refers to as “mathematical instinct” (93) in *Eureka*. If a set of coincidences seem to be related, perhaps they actually are—but not in the way we think. He goes on to say that “such sentiments...are seldom thoroughly stifled unless by reference to the doctrine of chance, or, as it is technically termed, the Calculus of Probabilities” (“Marie Rogêt” 724). Contrary to the prevailing idea that this story is a defense of causal determinism, it can more aptly be considered a critique of the assumption that observation provides complete access to truth. Probability does not dictate reality; probability *is* reality. But our observation of events leads us to incorrectly infer causality.

In staging Dupin's investigation as coincidentally related to the contemporary investigation of Mary Rogers, Poe invites his audience to question their beliefs about the nature of reality—beliefs that stemmed in great part from Newtonian determinism and the ideals of the Enlightenment. Even Laplace's *Philosophical Essay on Probabilities*, published in 1812, relies heavily on this kind of logic. Laplace posits that if for a single instant we could know everything about the universe, “nothing would be uncertain and the future, as the past, would be present to its eyes.” (4). As someone who was highly conscious of the scientific and mathematical principles that were shaping the ideas of his day, Poe was certainly influenced by this theory and references it many times in his work. In fact, his description of standing at the summit of *Ætna* and whirling around to “comprehend the panorama in the sublimity of its *oneness*” (*Eureka* 7) bears a striking similarity to Laplace's single visionary moment and the adjoining idea that it could produce a complete unity of understanding. But it would be a mistake to believe that Poe accepted this prospect uncritically. In fact, the very next sentence points out that the idea has “no practical existence for mankind” (8) because no one has ever accomplished the feat.

While “Marie Rogêt” is partially an experiment with the practical application of probability theory, it also serves to question the limits of both the theory and the human mind. The artificiality of this story's framework acts on the reader just as other apparent coincidences in the case would have acted on the journalists and police who encountered them. If we are unable to believe that an event is coincidental, then we look for evidence that it is deterministic. As sympathetic readers, even as we attempt to accept the premise that Marie Rogêt is a coincidental precursor to Mary Rogers, we know that it is the other way around; and we suspect that the real Rogers case has a deterministic relationship with the hypothetical one in the story. Upon further examination, we recognize that the two accounts are connected, but not in a one-to-

one causal relationship. The Mary Rogers investigation affects the outcome of the story, just as the story affects the outcome of the investigation by disproving some of the prevailing theories. In both cases, the outcome can only be predicted in terms of probability until the investigation creates a conclusion.

Although probability theory provides some insight into the circumstances of the Mary-Marie duality, field theory affords a great deal of insight that probability lacks the language and depth to describe. When considered using the terminology of quantum theory, Mary Rogers and Marie Rogêt are vibrations within a field. Their origin is the same, and the circumstances that surround their identities are the same, but this situation does not cause their outcomes to be the same. Neither one, as observed by readers, is a better representation of reality than the other. While the Marie of Poe's account is fictionalized in a magazine, the Mary of the New York account is fictionalized in the papers. Neither one of the written accounts give their audiences access to *truth*—in fact, they both obscure it—because both are created by observers. Similar to Heisenberg's uncertainty principle, in which knowledge of one variable in a system tends to obscure other variables, there is no way that any type of observational investigation can give complete access to the reality surrounding Mary Rogers' life or death. There is no way to know everything about every atom in order to use Laplace's method for predicting the future.

This is both mathematically true, according to physicists, and experientially true. Measuring the position would cause the momentum to change in an unpredictable way, and measuring the momentum would unpredictably change the position. In 1936, Schrödinger verified that even an experimenter who "avoids touching the system itself, controls its future state in very much the same way as is well known in the case of a direct measurement" ("Probability Relations" 446). Poe didn't need a physicist to tell him this. By considering the

way that narrative influences perceptions about reality, and particularly by developing an experiment on the relationship between two fictionalized accounts, Poe has already proven a similar point. The events that connect “Marie Rogêt” to the actual Rogers case are the same as those that connect the newspaper accounts, and even the investigation, to the actual events: They are both constructed with motives ulterior to the simple desire for truth; they both take into account an audience of readers that have particular interests and biases; they both interact with the outcome of the case in unpredictable ways. And neither of them successfully access reality.

Although “Marie Rogêt” as a case study may fail to describe reality, it makes an interesting claim about the best way to do so. In the first few pages of “Marie Rogêt,” the narrator makes several allusions to the connectedness of time as a whole. As he explains his relationship with Dupin, he describes the interlude between cases as a time when the two men “gave the Future to the winds, and slumbered tranquilly in the Present, weaving the dull world around [them] into dreams” (724). During these interims, Dupin and the narrator are not engaged in any kind of scientific search for truth, but their escape into a dream may be what symbolically gives them the ability to perceive the world from a new perspective—one that avoids direct interaction with the system. Their location “Out of Space: Out of Time” (Dream-Land 344) may suggest, as with “The Colloquy of Monos and Una” that a deeper understanding of reality can only be accessed at a distance. In analyzing Poe’s positioning of the detective, James V. Werner compares Dupin to the flaneur (8-9). Like Walter Benjamin’s flaneur, Dupin acts as a figure of great insight because of his ability to locate himself at the level of the scene while simultaneously remaining distant. It is only by recognizing that time itself is relative, that they can see a connection between things that may initially appear to be unrelated.

Poe also describes the imaginary case of Rogêt “as regards sequence of time, the primary branch of a series of scarcely intelligible *coincidences*” and the real one the “secondary or concluding branch” (724). This blatant fabrication of the order of events suggests a theoretical restructuring of time and reality in a way that further destabilizes the reader. Perhaps that is why Marie Rogêt must be set earlier than the contemporary Mary Rogers. If this story can be considered meta-reflexive, in that it is conscious of itself as a piece of fiction, it also follows that the real action lies not in the idea that the past determines the future, but that the present creates its own past because the mind cannot accept coincidence or probability as an explanation. This possibility coincides quite nicely with Monos’ realization that duration does not progress in a chronological way, and suggests that a limited perspective requires that people interpret information or events in a way that looks both chronological and deterministic.

When Poe poses the imagined story of Marie Rogêt as happening prior to that of Mary Rogers, he is only doing the same thing that we naturally do when we interpret the world around us. We begin by observing or hearing about a series of events, which may be described as coincidences because their interactions with one another are indeterminate until they are formed into a narrative. In the act of observing and analyzing those events, we generate a type of causality that we project back onto the events so that they appear to be an intentional sequence. The so-called “events” are only classifiable as events after we have narrativized them and given priority to the important ones. Similar to the way that Deleuze and Guattari describe the canal-rhizome model, Poe portrays events that look like coincidences because they spring up in unexpected places seemingly without rhyme or reason, but that are connected in unseen ways and are giving life to one another.

Apart from the actual framing of the story in relation to the Rogers case, Poe performs a number of analytical feats, the majority of which conflict with probabilistic reasoning as a successful method for understanding the relationship between events. His analysis casts doubt on any hope of describing “the formula for the movements” (Laplace 4) of everything in the universe, even for a single instant. Rather than supporting probability theory as a viable method for finding truth, he highlights its limitations in a way that may imply the need for a field theory. Detective Dupin points out that there is “a mode—many modes—and a motive—many motives; and because it was not impossible that either of these numerous modes and motives *could* have been the actual one, [the authorities] have taken it for granted that one of them *must*” (736). This type of logic relies on the idea that observation must provide access to reality, rather than the more accurate recognition that reality is probabilistic in nature—although the actual set of possibilities is infinite—and that the observation of a given set of clues does not provide full access to the field, or the system, from which it has arisen. By exploring several examples of the ways that probability theory can fail, Poe seems to imply that the unity of a field cannot be apprehended by assuming a one to one relationship between an observed event and its underlying truths.

Poe opens the second installment of his story with one example of a local newspaper exploiting probability in order to create *a priori* explanations of the past. The journal L’Etoile suggests that the body identified as Marie Rogêt might not actually be her because it has risen to the surface of the river in only three days, when conventional forensics showed that bodies “require from six to ten days for sufficient decomposition to take place to bring them to the top of the water” (740). After an extended explanation of the role that a person’s size, body composition, and state upon entering the water (alive or dead) play in determining the duration

that they will be submerged, Dupin concludes that any appeal to probability as a source of calculating time of death is “indeterminate” (743). In this instance, Dupin exposes a common misuse of probability theory, in which the perpetrator attempts to assign a probability to a set of events that is so complex in nature, depending on such a large number of factors, that it resists generalization. Furthermore, even if an event has a high probability of occurring, there still exists no guarantee that it actually will occur in a specific case.

In one of his most influential lines of reasoning—a point so successful that Mabbot recognizes it as valuable while still faulting Poe for failing to solve the case (722)—Dupin considers the circumstances of yet another young woman in a similar time and location to that of Marie Rogêt. Here, we can see an example of entanglement on a smaller scale than the Mary-Marie duality. According to Dupin, the outcome of a similar case yields knowledge about the case in question. In quantum mechanics, when an entangled particle that is measured to have an up spin, its opposite must certainly have a down spin. The logic in Poe’s story is similar: if a young woman has been killed by a gang in one instance, a murder in a similar time and location would be done by an individual. Dupin’s first explanation is that this “marvelous train of coincidence” (758) is too coincidental to be believable, although he does go on to offer an extended series of believable evidences that support his opinion.

The most interesting aspect of this segment of the story is that, while Dupin cannot accept more than a few similarities in the murders of these two Parisian girls, the narrator has no problem with the coincidence inherent in the Mary-Marie conundrum. In fact, the narrator takes care to say that it is not his “covert design to hint ‘at an extension of the parallel’” (773) between the two cases. Should this be seen as one of the “defensive disclaimers” (*Uncertain Chances* 32) mentioned by Lee? Although some may see this as an aesthetic oversight, it may also be seen as

an important angle that adds depth to the entire experiment. Both of these examples of entanglement consider the limits of rational thought and test the limits of probability as a way to discover truth. They recognize the connectedness of events without completely accepting the idea of determinism inherent in Laplace's discussion of probability theory. Coincidences don't need to be deterministic in order to be probabilistically related. In casting doubt on the nature of reality, Poe prefigures the doubts of scientists during the "erosion of determinism" (Hacking 455) that happened during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries.

In another move that scholars have puzzled over, Poe compares probability theory to a throw of dice, suggesting that although the intellect would reject the idea that throwing double sixes twice in sequence would affect whether sixes would be thrown in the future, intuition leads a gambler to bet "the largest odds that sixes will not be thrown in the third attempt" (773). The most frequently noted problem with this statement resides in the fact that a mathematician would say unequivocally that the probability of a previous roll does not affect a subsequent roll. Irwin has cited this particular example as a point of "intentional mystification" (Irwin 328) that Poe uses to distract the reader from the fact that Dupin did not actually solve the case. While elusively glossing over the case's resolution may certainly have been an attempt at mystification, this discussion of mathematics and probability is not, neither is it out of character within the context of the rest of the story. It is one of several occasions in which Dupin and the narrator have interrupted the storyline to discuss the validity of a probabilistic approach to investigation.

It is true that the narrator describes the mathematically correct approach as a "gross error" (773) that is philosophical in nature, but he is not claiming that the probability itself has been miscalculated. Rather, with an understanding of the way that field theory plays out in the text, it becomes clear that the error is not in the probabilistic equation itself, but in accepting probability

as deterministically related to the real outcome of a given throw of dice. Neither the gambler nor the mathematician have a better grasp on the kind of reality that the narrator is looking for. While the former relies on a misleading relationship with experience, the later relies on an abstract concept that bears a non-causal relationship to the real. Probability is adequate to describe reality until the moment that it intersects with an experimental observation. Any time we use probability to predict an outcome, we are subscribing to the fallacy that there is a causal relationship between a field of energy and the individual particles as observed. Even though this type of calculation can be helpful or even useful, it lacks a concrete connection to what might be described as *real*.

#### Conclusion

“The Mystery of Marie Rogêt” presents a nuanced look at time as relative, at reality as probabilistic, and at individual events as integrally, but not deterministically, connected within a field, allowing Poe to explore in greater depth some of the principle ideas that he set forth in “The Colloquy.” The combination of these things within a single story can be most successfully understood in terms of entanglement. At the outset, the outcome of the Rogers case is unknown and so is the outcome of the fictionalized account. They exist only as part of a field that is entirely probabilistic.

Due to the nature of the field, an uncountable number of factors influence the trajectory of the investigation, including and especially the opinions and narrative of the investigators. The discovery of one piece of evidence tends to obscure another. Like scientists in a lab, if the detectives (both fictional and literal) were to restrict their measurements to *one* system, Schroedinger’s conclusion would remain true—that “the representative obtained for the *other* system is by no means independent of the particular choice of observations [selected] for that

purpose and which by the way are entirely arbitrary” (“Discussion” 556). The relationship between one case to the other, and the evidence within each case appears to have a causal relationship at the level of probability, even if it would remain coincidental from another perspective. Readers in the 19<sup>th</sup> century, as well as many readers today, might doggedly cling to the idea that the underlying reality would be accessible if we were to somehow gain access to every single particle of information in a specific moment. However, it is not only impossible to retrieve all of the required pieces of evidence, but each piece of evidence is only arbitrarily connected to the conclusion, particularly considering that the importance attributed to a given clue is dictated by the investigator.

When seen in tandem with a host of other tales and poems that explore the relationship between events in time and space, including “The Colloquy of Monos and Una” and culminating in *Eureka*, “The Mystery of Marie Rogêt” should be recognized as an important and innovative work within the development of Poe’s unique metaphysical theory. In contemplating the implications of probability theory while simultaneously resisting a determinative perspective, Poe pinpoints aspects of reality that remain inaccessible to the human mind. His narrative destabilizes one of the most influential tenets of popular belief that came out of the Enlightenment: that all knowledge might be discovered through careful and concise experimentation and observation.

By extension, the construction of “Marie Rogêt” also challenges the perspective, reliability, and authority of figures (specifically newspapers and magazines) that control public access to information. Throughout this work, Dupin’s unrelenting skepticism about both the evidence that these entities choose to emphasize and the logic that they use to explain its relationship with the case suggests not only that an outside perspective can more successfully

decode each clue, but that a finite mind fails when attempting to comprehend the infinite.

Although Poe certainly did not anticipate a deathbed confession in the Mary Rogers case and its resulting upheaval in his own investigation, the fact that it happened only further illustrates this point. Regardless of the intuitive or analytical abilities of the investigator, there is no way to anticipate every possibility based on its probability of occurrence. Inevitably there will be factors outside of the observable set of evidence. That, in part, is why every account of an event is a fiction, at least to some degree. A writer must make do with the available information and narrativize the world in a way that reflects the human need for understanding the relationship between things that a universal perspective would recognize as coincidence.

By carefully framing “Marie Rogêt” in terms of coincidence, an outgrowth of events that are not causally related to the field of probability from which they emerged, Poe’s work contemplates infinity, and the relationship between people within an eternal sphere, from an experiential perspective. In doing so, Poe is drawn to the scientific and cosmological, and orchestrates an insightful experiment on the limits of ratiocination as a way of understanding truth. If in Poe’s time, as is the case of popular opinion today, scientific experiments and mathematical proofs seem to have the corner on the market of truth-seeking, using narrative as a method for experimentation represents both a way of thinking that prominent physicists would successfully and famously employ in the early 20<sup>th</sup> century, and a challenge to the methods and conclusions of the scientific world of his age. Even after all of the proofs and experiments have been done, it is only at the level of narrative and individual experience that the information becomes meaningful.

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