

Monsters in a Well Lit Room: Shelley's Use of Electric Language in *Frankenstein*

In her novel, *Frankenstein; or, The Modern Prometheus* (1816), Mary Shelley constructs an elaborate allegorical representation of the scientific debate taking place in the late eighteenth and early nineteenth century regarding whether or not “animal electricity” existed. Scientists, physicians, and philosophers argued over what material electrical experiments were actually showing and whether or not man would ever be able to wield this highly visible power to create life or to return life to the dead. Shelley's allusion to electrical phenomena and Victor's studies of the “spark of life” rely on associations with experiments and medical studies taking place in Shelley's time that visibly demonstrated the power of electricity and the mysteries of the human body in order to create the particularly horrific tone of the text. Despite the “tell” rather than “show” nature of much of Shelley's language, her allusions to electrical phenomena and biology lend to the electricity the element of grotesque horror that is otherwise almost exclusively present in the language of a particular few sections of the text. Through the examination of

Philip Thomson, author of *The Grotesque*, (1972), states that its most consistently distinguished characteristic is “the fundamental element of disharmony, whether this is referred to as conflict, clash, mixture of the heterogeneous, or conflation of disparates.” Triggered by irresolvable conflict in a text, a critical shift in understanding occurs as the reader is made to feel dualistic responses to something, like a shift from curiosity to disgust or pity to revulsion, when presented with both the comic and the terrifying simultaneously. The grotesque is further emphasized by the absence of temporality and exaggerated or radical elements of abnormality in an otherwise realistic and natural world, causing readers to feel horror or revulsion as they face a threat to a perceived social norm.

In her introduction, Shelley (possibly Percy, as the footnotes of the text suggest) writes of her novel, “The event on which this fiction is founded has been supposed....as not of impossible occurrence....I have thus endeavored to preserve the truth of the elementary principles of human nature, while I have not scrupled to innovate upon their combinations,” suggesting that *Frankenstein* is intended to portray radical scientific elements in a realistic and natural setting. Shelley’s references to several historical figures and personal statements imply that *Frankenstein* is intended to embrace the most basic elements of the grotesque on multiple levels. Even in her description of Victor’s first experience with electricity, Shelley uses grotesque imagery and irresolvable conflict between a peaceful landscape and an impending storm. Victor says to Walton:

We had retired to our house near Belrive, when we witnessed a most violent and terrible thunder-storm. It advanced from behind the mountains [and] thunder burst...with frightful loudness...[I watched] its progress with curiosity and delight...a stream of fire [issued] from an old and beautiful oak...nothing remained but a blasted stump...It was not splintered by the shock, but entirely reduced to thin ribbands of wood. I never beheld anything so utterly destroyed.

Despite the fearful violence of the storm and lightening, Victor responds with interest and joy. The description of the destroyed stump suggests that the nature of electricity is one of violence and malice, and Shelley’s personification of the storm “advancing from behind the mountain...with frightful loudness” adds to the grotesque and horrifying power that electricity possesses in Victor’s eyes.

To understand further how Shelley uses electricity as the major element of the grotesque in *Frankenstein*, one must first understand Shelley's references to electrical phenomena and the study of human biology as they would have been perceived in 1816 when the novel was published. In the introduction and later in the text, Shelley mentions three men by name whose contributions to the study of human biology and electrical phenomena were widely recognized. After being rescued by Walton and his crew, Victor tells Robert how he came to devote his life to natural philosophy and, ultimately, to his own undoing. After discovering of works by Cornelius Agrippa, a highly controversial, radical sixteenth century occult writer and critic who was outspoken against religious hypocrisy and social inequality between classes he describes the discovery in his father's library of the book *De Occulta Philosophia*, in which Agrippa discusses the occult and magic on a number of levels. Rumored to have summoned demons as a result of his studies, his work was considered unscientific and to have been out of date for centuries by the time the book is alluded to in Shelley's text. Victor says to Robert of Agrippa's work, "I opened it with apathy... [but] the wonderful facts which he relates soon changed this feeling into enthusiasm. A new light seemed to dawn upon my mind."

His father's reaction when Victor comes to him full of enthusiasm for Agrippa is quite the opposite, as is the reaction of the first professor he speaks to at Ingolstadt, M. Krempe. When Victor explains how he came to study natural philosophy through Agrippa's works, Krempe tells him that,

...every instant you have wasted on those books is utterly and entirely lost. You have burdened your memory with exploded systems and useless names. Good God! In what desert land have you lived, where no one was kind enough to inform

you that these fancies...are a thousand years old, and as musty as they are ancient?

Shelley's choice of Agrippa as Victor's inspiration for the progress of his studies is ironic in its suggestion that outdated science from the writings of a supposed charlatan lead Victor to discover a method for creating human life. The allusion to Agrippa, whose reputation was so controversial, indicates a feeling of confusion and even fear that people generally seemed to have towards electricity and medicine at the time of Shelley's work. Where Agrippa's ideas may have been considered inaccurate, so might Victor's belief that he could, as a man, wield the powers of God or nature without paying some dear price. Later in the text, after having arrived at Ingolstadt, Victor meets a professor, M. Waldman who has a different perspective on Agrippa and refers to him as having been responsible for the foundations of the knowledge of modern philosophers, and as one of "the instruments of bringing to light." On the surface, the metaphors of "dawning light" or "bringing to light" imply knowledge and are suggestive of the growing knowledge of and interest in electrical phenomena, as well as the studies that will lead Victor to his obsession with the creation of life. Shelley leaves the conflicted view of Agrippa's studies unresolved for the reader. In combination with his association with occult studies and demons, Agrippa and his association to electrical phenomena are cast in a grotesque light.

In telling the story to Robert Walton of his interest in the natural sciences, Victor refers to both Albertus Magnus and Paracelsus. Magnus, both a scientist and Catholic, was the first of his time (1193-1206) to support his theories about nature and the human body with experiments, earning him a reputation as an alchemist and practitioner of witchcraft as well as the title "Doctor Universalis," or universal doctor, and eventually sainthood. Paracelsus was both a scientist and astrologer who followed in Magnus's footsteps, studying the human body through

experimentation while inventing medicinal treatments for several ailments that revolutionized the treatment of many illnesses. Paracelsus's ideas opposed the theories and study of Victor's inspiration to study the natural sciences, Cornelius Agrippa, in that he "embraced astrology" and "denounced magic." Victor alludes to the connection between Agrippa, Magnus and Paracelsus and the occult, stating that "The raising of ghosts or devils was a promise liberally accorded by my favorite authors, the fulfillment of which I most eagerly sought." Victor's desires to expand on the studies of Agrippa, Magnus and Paracelsus in order to harness electricity and create artificial life are made inherently grotesque by the drawing of a direct connection between the reputation for occult studies of his predecessors and his own work.

Shelley also mentions Erasmus Darwin directly in the introduction to the 1816 text. The University of California at Berkley's website dedicated to Darwin states that he formulated one of the first theories of evolution in his text *Zoonomia, or, The Laws of Organic Life* (1794-1796) and later elaborates on them in a series of scientific poems. Shelley indicates that she is familiar with Darwin's science in her introduction which states, "The event on which this fiction is founded has been supposed, by Dr. Darwin...as not of impossible occurrence." It is also noted in the text's footnotes that Shelley had known Darwin personally as a child through his connections with her father. In his essay, "The Darwin before Darwin: Erasmus Darwin, Visionary Science, and Romantic Poetry," Michael Page states of Darwin that,

He was concerned to rescue man from the aspersion of being nothing more than a machine. He stressed man's inner energies and drives, both the capacity and the need to learn, the inventiveness and adaptiveness of homo faber, the man who makes himself. Darwin offered a vision of man for the machine age, but not of man the machine.

As the debate continued over whether or not electricity was the material form of the essence of life, Darwin's ideas about the human "capacity to cause the generation of life," and that evolution occurred as an act of will resonated with Shelley. Considered in the context of her novel, Darwin's projections of "man the machine's" place in a post-Industrial Revolution Europe and the ability to evolve through "the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, [and] volitions," allude to the concept of man as his own creator and contribute to the inherently grotesque nature of electricity in Shelley's text.

Debates about the origin and makeup of electricity continued to rage for decades among several disciplines, including physicists, doctors, and untrained performers who conducted lectures and demonstrations of visible electricity for the public in lecture halls, cafes and sometimes in the streets of countries across Europe. In her essay, "The First *Frankenstein* and Radical Science," Marilyn Butler describes the conflict between two surgeons, John Abernathy and William Lawrence, demonstrating how closely electricity was linked to the medical field during Shelley's lifetime. The two men were directly opposed in a debate between materialism and vitalism, and the relation of both to electricity. Abernathy's vitalist views are summarized, stating that "he was consistent with hierarchical animation from above in theology," suggesting that while Abernathy saw connections between electricity and the essence of life, he still placed the ultimate power for giving life in the hands of God.

Where vitalists believed that living things "contain some non-physical element or are governed by different principles than are inanimate things," materialists held "that everything that actually exists is material or physical." The views of Lawrence, who Shelley is said to have had personal connections with, are also summarized. Butler writes, "Detected in Shelley's novel [are] traces of Lawrence's thoughts on monstrosity, sexual selection, and heredity," suggesting

that while Abernathy's views seem to dominate Shelley's text, the opinions of both are present and that "to some degree," *Frankenstein* acts out the debate between Abernathy and Lawrence.

Butler theorizes that Shelley agreed with Abernathy, since in her depiction of the creation of the creature "it seems likely...that [electricity] plays some part in the 'instruments of life' which 'infuse a spark of life' into the monster". While Shelley's text does in many ways suggest Abernathy's belief that "life was injected into organized matter from above, and that it resembled electricity," essentially suggesting that life entered the body after its construction by way of a mystical or supernatural force, life is given to the creature by Victor, not God. Shelley uses suggestive language when Victor states that "life and death appeared to me ideal bounds, which I should first break through, and pour a torrent of light into our dark world" suggesting that while God may be responsible for life, it was Victor himself who would bring the true light of knowledge and creation to man. After giving life to his creation, Victor exclaims, "Great God!" and uses phrases like "in contrast to life" and "accidents of life," demonstrating that he has acted independently of God and has quickly come to regret it. The conflict between not only Abernathy and Lawrence, but also Victor and God remain unresolved and inexorably linked to electrical phenomena, suggesting a grotesque conflict between the two and leaving the reader to respond to it.

In his essay, "Volta's Battery, Animal Electricity, and Frankenstein," Richard Sha argues that much of Shelley's depiction of the mystery surrounding electricity is based on the debate between two Italian physicists, Luigi Galvani and Alessandro Volta, that took place in the years before Shelley wrote her story. Sha supports this claim with examples of language used throughout the text that are considered suggestive of the discourse between the two men, including references to the "instruments of life" and to "infusing a spark," as well as "animal

electricity” and “the appearance of life.” In his book, *Science, A History 1543-2001*, John Gribben discusses a paper written by Galvani in 1791, describing a long series of experiments on animal electricity that he had done. Gribben writes,

In it, he recounted how he had first become interested in the subject after noticing twitching in the muscle of a frog laid out for dissection on a table where there was also an electrical machine. Galvani showed that the twitching could be induced by connecting the muscles of the dead frog directly to such a machine or if the frog were laid out on a metal surface during a thunderstorm.

Volta, on the other hand, disagreed and went so far as to invent a battery in order to demonstrate that what Galvani thought was animal electricity was actually “mechanical,” “man-made electricity, generated by contact between two metals.” Sha supports this with the claim that Shelley uses the word “battery” as a metonym for “animal electricity,” making a direct connection between electricity and instruments of artificial life.

In his essay, “Vital Matters: Mary Shelley's *Frankenstein* and Romantic Science,” Maurice Hindle writes that in 1803, Giovanni Aldini, Galvani's nephew, published *An Account of the Late Improvements in Galvanism; With a Series of Curious and Interesting Experiments*, which described an experiment in which electricity was applied to “the body of a freshly executed criminal,” stimulating the muscles of the corpse's face into a sort of grin, giving “an appearance of re-animation.” Ian Jackson describes reasons why electrical demonstrations like this were popular, captivating audiences and inspiring what David Thame refers to as “a rash of tracts and counter-tracts and substantial articles in the leading reviews and encyclopedias” in his essay, “Science as Spectacle: Electrical Showmanship in the English Enlightenment.” Jackson

writes, “The questions of whether a force could be identified that would constitute the essence of life itself, and of what relationships such a force might have to electricity, had been in contention for a long time,” describing what was thought to be one of the greatest potential scientific developments of the day; that is, the potential ability to bestow life with electricity. Being highly visual with regards to public exhibition, electrical performances and the science they displayed where not only easy to demonstrate in the public forum but also offered a mysterious glimpse at what was perceived to be a power that could give life and motion to dead flesh.

Jackson refers to demonstrations of the powers of electricity, quoting Adam Walker, an inventor and lecturer in the late 1790’s and early 1800’s, (as well as instructor to Percy Shelley) who describes displays of “[electricity’s] power of exciting muscular motion in apparently dead animals.” Essentially, one felt as if they were seeing powers that were godlike in nature. She calls Galvani’s reference to his experiment with both the frog and the executed prisoner’s body an “oxymoron,” stating that “For Volta, when Galvani and his followers located “animal electricity” in dead [bodies,] they violated their own assumptions.” Shelley builds an association between Galvani’s and Aldini’s frightening and macabre experiments and the conflict between Volta’s and Galvani’s theories in order to allow the reader to contemplate the question throughout the text while leaving the matter unresolved. By doing so she builds a close association between electrical experiments and demonstrations that most people were familiar with and Victor’s work, allowing the reader to imagine the grotesque where her language and encouraging them to connect the grotesque to all things electric in the text.

By making reference to so many different physicians, scientists and philosophers who were both widely known and vital to the progress of the natural sciences and electricity, Shelley weaves an elaborate web of suggestive language and imagery that complicate her allusions to

electrical phenomena. Adding the implication of the debates between Abernathy and Lawrence and Galvani and Volta, electricity and science are brought even further into conflict, allowing the reader to generate the grotesque response to their reading of *Frankenstein* for themselves. By making electricity inherently grotesque in the text, Shelley was able to convey conflicted feelings about science, medicine, and religion all at once without going beyond socially acceptable bounds of realism and propriety to leave the reader in terror.