

Science Is Rad(ical): How *Frankenstein* Was Influenced by 19th Century Scientific Controversy

In the early nineteenth century, the power of religion and science were at war with each other in the materialism vs. vitalism debate. English society fought over what constitutes life— if it is purely biological and can be explained away with science, or if it involves some mysterious force beyond our understanding (Butler 406). It is argued that Mary Shelley, author of the science fiction novel *Frankenstein*, was on the side of radical science and this was reflected in the creation of her work. Analyzing the novel as a product of early nineteenth century scientific debate shows how both the 1818 and 1831 editions of the novel were influenced by radical science, and knowing this context reveals how *Frankenstein* can be a cautionary tale against unchecked scientific progress.

Before analyzing the influences of radical science in the classic novel, knowing the significance of its role in the work is necessary to begin. The scientific controversy of the time that is so ingrained in Shelley's publication is summed up in an article by Marilyn Butler, titled "*Frankenstein* and Radical Science." Butler explains how a public debate over the nature and origins of life between John Abernethy and William Lawrence, both professors at the London Royal College of Surgeons, played a part in the creation of *Frankenstein*. Abernethy aimed to unify religious and secular beliefs with this vitalist standpoint, arguing that an invisible force akin to the soul and electricity was imperative to be able to explain life. Lawrence, on the other hand, took the materialist stance, and argued that the physical body performs all functions of living. Percy and Mary Shelley were friends with Lawrence, and this association would have influenced them to take more care with accuracy when including scientific ideas in their writing. However, when Lawrence was criticized and punished for these "immoral" ideas, *Frankenstein's* connection to radical science was possibly next to be condemned (Butler 406-15). Knowing this

information sets the stage for understanding how radical science affected Shelley's writing of the original text of *Frankenstein*, as well as future revisions in 1831.

With a basic grasp of materialism and vitalism, as well as the controversy surrounding it in the early 1800s, *Frankenstein* can be analyzed under the context of the time. The first edition of *Frankenstein* published in 1818 shows materialist influences throughout the plot, specifically in the development Victor's character and the Creature itself. Much of Victor's backstory revolves around his becoming a man of science. In his youth, the writings of alchemists Agrippa, Magnus, and Paracelsus influenced him, and because of this Victor's mindset reflected the ideas of vitalism rather than materialism (Shelley 22). Instead of empirical explanations for the workings of life, Victor relays to Walton that his "dreams were therefore undisturbed by reality, and [he] entered with the greatest diligence into the search of the philosopher's stone and the elixir of life" (Shelley 23). Victor's focus on alchemy as an adolescent shows his belief that what accounts for life is beyond logical explanation. However, Victor does not remain this way. A few years of education and mentorship at Ingolstadt turn him into someone who completely subscribes to natural philosophy, and ultimately it is Victor's studies in chemistry and biology that contribute to the success of his creation and not some unexplainable, magical force, demonstrating clear parallels between the character's beliefs and the materialism of Shelley's world. It is not only the result of these similarities that show how deeply rooted the text of *Frankenstein* is in materialist sympathies, but also the progression of Victor from a vitalist mindset to a materialist one. Having Victor evolve this way and portraying his original vitalist convictions as foolish mimics Lawrence's breakdown of Abernethy's notions that had long been superseded, further linking Shelley's novel to a materialist perspective. This can include Lawrence mocking that "the Life question be left to the professionals," and joking that if matter

did have unexplainable, vital properties, then “surely they may reside in a fabric which differs only in being a little coarser” (Butler 408). By also depicting vitalism, similarly to Lawrence, as foolish, the outcome connects Shelley’s novel to materialism even more. These connections to the materialist viewpoint found in Victor’s characterization illustrate how *Frankenstein* is partially borne out of scientific debate in the early nineteenth century.

In addition to Victor’s characterization, the Creature he builds also links the novel to materialist influences. According to Butler, one of the novel’s origins must be Lawrence’s study on a boy born without a brain (412). This case study shows parallels to Victor’s creature, who was constructed from various parts of corpses he looted from graveyards (Shelley 34). Like Lawrence’s work might suggest, the construction of the creature explores the function of the brain to the rest of the physical body and its role in generating a living being, and having multiple works authored by Lawrence be the foundation of parts of the text associates Shelley’s work with the materialist side of the debate. Furthermore, the body of the Creature opposes vitalist opinions because its construction and reanimation are implied to be hard science, instead of involving an unexplainable life force. In his essay titled “*Frankenstein* and the Soul”, Martin Willis argues that the monster itself is a breathing representation of the materialist perspective: “From the basic skeleton through the 'muscles and arteries' to the facial complexion a picture is built up of a straining mass of sepulchral material barely held together. The monster personifies scientific materialism in the most literal sense...” (Willis 26). Essentially, the creation of life as made by Victor is presented as a tangible process, absent of an unseen force that vitalism calls for. When fashioning the Creature, Victor narrates that he “collected bones from charnel-houses, and disturbed with profane fingers, the tremendous secrets of the human frame” (Shelley 34). The monster’s creation being the result of purely physical science is yet another argument that

portrays the 1818 edition of *Frankenstein* as siding with the materialist standpoint.

Some critics argue that the novel indicates Shelley's vitalist perspective; however, what they see as putting materialism in a bad light may be Shelley instead condemning unchecked scientific progress. In David Hogsette's article titled "Metaphysical Intersections in *Frankenstein*: Mary Shelley's Theistic Investigation of Scientific Materialism and Transgressive Autonomy," he asserts that Victor's actions demonstrate the corrupting nature of materialism. As evidence, he points to "the intellectual, spiritual, and moral bankruptcy of materialism in the body of the Creature. Victor's blind materialism and selfish desire for creative autonomy result in the creature's physical hideousness" (Hogsette 551). Having said that, I believe the Creature's appearance that is supposedly abhorrent to others is not necessarily a result of being ugly. When the Creature is brought to life, Victor states that, "his limbs were in proportion, and [he] had selected his features as beautiful" (Shelley 35). If this were the case, then it is possible that other people's revulsion is caused by something else. As Willis writes, "the revulsion inspired by the monster is due to an innate sense of his difference, his manifestation of the alien, rather than an admittedly indisputable physical repugnance" (Willis 28). If it is an instinctual "otherness" that revolts every human that the Creature comes across, one must wonder what message Shelley is attempting to convey instead.

To begin answering that question, it is important to note how those who recoiled from disgust instantly at the sight of the Creature and did not give him a second chance are portrayed, because although the Creature is inherently good, it is society's rejection that corrupts him: "I have good dispositions; my life has hitherto been harmless, and, in some degree, beneficial; but a fatal prejudice clouds their eyes..." (Shelley 93). Perhaps instead of the Creature representing the corrupting nature of materialism as Hogsette states, Shelley tries to point out possible

consequences of scientific progress going unchecked. With the details of the novel in mind, Christa Knellwolf comes to this conclusion in her essay “Geographic Boundaries and Inner Space: *Frankenstein*, Scientific Exploration, and the Quest for the Absolute.” She writes that the novel “reminds us that the process of expanding geographic and intellectual boundaries needs to be embedded in the context of care, responsibility, and respect” (Knellwolf 516). So, although materialism played a part in Victor’s intense desire for knowledge, it was not materialism that led to his tragic demise. It was his disregard for considering scientific boundaries that brought about disaster, with Victor himself narrating that his “unguarded and ardent” demeanor when approaching his experiment was what brought about “destruction and infallible misery” (Shelley 32). In this way, the Creature’s and Victor’s characterization are still manifestations of materialism in the early nineteenth century, but it was not Shelley taking the side of vitalism.

When comparing the 1818 and the revised 1831 editions of *Frankenstein*, one might question why Shelley chose to make the changes she did and why. In the Abernethy and Lawrence debate previously mentioned in Butler’s article, it was Abernethy that came out on top. One of Lawrence’s books as well as his other publications were severely vilified in a newspaper that advocated vitalism and called for his suspension from the Royal College of Surgeons. And because his works were considered blasphemous, immoral, and seditious, under a new ruling Lawrence lost his copyright claims. The notoriety surrounding Lawrence spread to materialist ideas in general, and the radical science and Lawrence’s influence embedded in *Frankenstein* made Shelley’s work the next target for denunciation (Butler 414-15). Because of the looming accusations, Shelley removed the signs of materialist sympathies and made Victor a more religious character. Giving Victor a different mindset for his Creation might draw readers to the conclusion that the Creature is meant to be seen as a crime against God’s power instead of seeing

it as, for example, a question of how far the limits of scientific progress should be pushed. So those who do not know the context of the copyright threats Shelley faced during this time might perceive these revisions to be a change in the author's beliefs, or that it was the author's attempt to convey her message more accurately. However, it is possible that these edits were made because of the pressure she faced from society and to avoid the ire of widespread religious sentiment. If this theory is correct, even the revised edition of *Frankenstein* can be identified as a product of early nineteenth century scientific debate. Where the original 1818 edition is a byproduct of the contention because the novel proclaimed its materialist stance in the controversy, the newer edition is still connected to the debate *because* of Shelley's attempt to distance herself from it.

Putting a work of fiction in the context of what was going on at the time of its creation allows for a deeper understanding of the author's intentions, because a literary text does not exist in a vacuum. In the case of *Frankenstein*, the materialism vs. vitalism debate wormed its way into the pages of the 1818 version of the novel in Victor's characterization and the Creature's construction, which revealed the influence of Lawrence's writings and radical science overall. The alterations of the 1831 edition tell a different story from the original, but knowing the context of Shelley's time bring up the possibility that this was a response to the danger Shelley faced for positioning the novel alongside contentious ideas. Peeling back these layers show that instead of the novel being a comment on how the desire for knowledge itself is corrupting, it foresees what could happen when that desire is pushed past its limits. Rather than using the work as evidence for supporting either side in the origins of life debate, *Frankenstein* can be used as a warning for future generations to stop and think of the consequences that scientific progress brings.

Works Cited

Butler, Marilyn. "Frankenstein and Radical Science." Shelley, pp. 404-16.

Hogsette, David S. "Metaphysical Intersections in *Frankenstein*: Mary Shelley's Theistic Investigation of Scientific Materialism and Transgressive Autonomy." *Christianity and Literature*, vol. 60, no. 4, 2011, pp. 531-59.

Knellwolf, Christa. "Geographic Boundaries and Inner Space: *Frankenstein*, Scientific Exploration, and the Quest for the Absolute." Shelley, pp. 506-20.

Shelley, Mary. *Frankenstein: the 1818 text, contexts, criticism*. Edited by J. Paul Hunter, 2nd ed., Norton, 2012.

Willis, Martin. "Frankenstein and the Soul." *Essays in Criticism*, vol. 45, no.1, 1995, pp. 24-35.