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# **THE SCIENCE OF LIFE AND DEATH IN FRANKENSTEIN (2021) BY SHARON RUSTON**

Review by Ruth-Anne Walbank

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**Ruston, Sharon. *The Science of Life and Death in Frankenstein*. Bodleian Library Publishing, 2021. 152 pp.**

From the numerous film adaptations to the supermarket Halloween costumes, Mary Shelley's *Frankenstein* is a culturally pervasive text from which it is difficult to escape an encounter. Academic scholarship reflects this influence, with countless articles, monographs, and study guides published on Shelley's famous novel each year. However, while one might consider this a saturated area of literary criticism, Sharon Ruston's *The Science of Life and Death in Frankenstein* (2021) makes a truly original contribution to Frankensteinian discourse. Ruston thoroughly examines how the scientific and medical debates prevalent in the Romantic period influenced Shelley's iconic creation, ranging from figureheads like Humphry Davy to John Abernethy and Joseph Priestly.

The key scientific debate for Shelley, Ruston argues, was the different elements in contention for the "vital principle," that "'something' added to the material body, which made it move and live" (81). Ruston interweaves a historical evaluation of scientific and medical thought on "what life was and how living bodies differed from dead ones" in eighteenth and nineteenth-century public forums into their literary analysis of Victor's creation process in *Frankenstein*), demonstrating how Shelley used her knowledge of scientific discourse to create what is often called the first Science Fiction novel (81). More than that, Ruston articulates how Shelley intricately stitched the competing theories on life and death into the fabric of her novel, exploiting "the uncertainty caused by the new scientific and medical ideas [...] to produce [a] disquiet and unease" that continues to impact readers in the twenty-first century (3).

The introduction and first chapter begin with an overview of "Life and Death in Romantic Literature," including biographic and historical context to foreground Shelley's familiarity with these central themes. Ruston's carefully formulated rationale is clear and precise, reasoning their decisions in calling Frankenstein's creation "the Creature" as a less biased and "more positive [term] than 'Monster'" and their focus on the 1818 edition of *Frankenstein* as this version "focuses on the contemporaneous scientific explorations of life and death" compared to the 1832 edition, which reconfigured these themes through a Gothic lens (16, 17). These opening sections also consider other Romantic writers and their contemplations on life and death, such as Anna Barbauld's attempt to establish which innate rights living beings possessed in "The Mouse's Petition" (1792), the constitution of life and death in Samuel Taylor Coleridge's *The Rime of the Ancient Mariner*

(1798), and the dangers of gaining illicit knowledge about life/death in Lord Byron's *Manfred* (1817). Coupled with the historical backdrop of The Royal Humane Society's foundation in 1787 and both Mary and her husband Percy's intimate knowledge of the latest scientific discoveries in their journals, Ruston provides a convincing argument for the intersections of science, poetry, and fiction in the Romantic period.

Having established *Frankenstein's* place among Romantic re-imaginings of scientific and medical debates, Ruston analyses the first contender for the source of life, "Vital Air." The book follows a pattern of introducing a new scientific discovery concerning life and death in the late eighteenth to the early nineteenth century, illustrating its influence in art and literature before demonstrating Shelley's familiarity with the concept by comparing this discovery to its representation in *Frankenstein*. In this segment, Ruston highlights that oxygen, called vital air at the time, was discovered within three decades of Shelley's publication. While twenty-first-century readers may take for granted knowledge of photosynthesis and resuscitation procedures like cardiopulmonary resuscitation (CPR), Ruston considers how these new developments influenced Shelley's conception of *Frankenstein*, placing a high value on air quality as that vital element that could restore and heal.

While the thought of electricity in *Frankenstein* might bring to mind Colin Clive exclaiming, "It's alive!" in James Whale's 1931 film adaptation, chapter three, "Electric Life," reveals how Shelley embeds ideas on electricity as a contender for the vital principle into her novel. Despite the repeated association of the Creature's creation with thunderstorms, Ruston reminds readers that there is "no explicit mention of the use of electricity in the creation scene, [but] there are tantalizing references [...] to a vital 'spark' throughout" (62). Instead, Ruston argues that Shelley intentionally drew on scientific debates that would terrify her audience, specifically that these discoveries could hold the power of resurrecting or extending life. The astonishing level of Ruston's analysis is evident, pinpointing Victor's use of specific phrases from the writings of scientists like Giovanni Aldini in the novel, foregrounding Shelley's detailed familiarity with electrochemistry and other new sciences.

The fourth chapter, "The Vital Principle," further emphasises the influence of prominent medical and scientific thinkers on Shelley's work, notably the very public debate between the surgeons John Abernethy and William Lawrence. Just as two celebrities arguing on social media would attract audiences today, Ruston illustrates how the contention between Abernethy and Lawrence was openly controversial, drawing the media's attention and resulting in censorship of Lawrence's "radical" publication (105). Abernethy emphasised electricity in his theory as that additional 'something' added to the body to create life. Meanwhile, Lawrence saw vitality as a summation of the body's functions in one organised system, an opinion too closely related to materialism for nineteenth-century Britain's conservative audience. Adding further contention to the field, another contributor to the debate, John Hunter, "thought that blood was a good candidate for the principle of life" (91). Air, electricity, and blood were just some contenders in the vitality debate, forming a complex tapestry of what life might be; a tapestry Victor sews into his Creature's body to create a visceral representation of these anxieties in a composite of potential sources for his creation's life.

While much of the book focuses on the question of life, Ruston dedicates the final chapter to death, specifically, the possibility of "Raising the Dead." Ruston considers how life and death were thoroughly connected in the Romantic period, both for the medical community as they attempted to determine what constituted death and for Victor in *Frankenstein* as his creation rests on his realisation that "death creates life just as life creates death" (113). According to Ruston, it is Victor's belief "that life and death exist[s] on a continuum" which makes Shelley's novel so haunting, especially for a nineteenth-century audience grappling with the growing problem of body snatching and fear of their body's safety in death's uncertain state (111).

A great strength of Ruston's analysis is its interdisciplinary aspect, bringing together scientific discourse, art, philosophy, and literature. For example, in chapter two, the reader seamlessly moves between an examination of how the Creature in *Frankenstein* values "the benefits of air upon his mood and sense of well-being" to an analysis of the painting *An Experiment on a Bird in the Air Pump* by Joseph Wright of Derby (1768) and a discussion on the scientific discovery of oxygen by scholars including Joseph Priestley and Antoine Lavoisier (41). The book, therefore, forms a case study for the importance of interdisciplinary research, with its rich academic tapestry only made possible through combining science and art. In fact, Ruston highlights in *Frankenstein's* manuscripts how "Percy crossed out Mary's choice of 'chemist' [...] to replace with 'natural philosopher'" as "a broader and more genteel term [...] indicating the philosophical study of nature" (14-15). For Mary Shelley, the distinctions we have today between art and science were more ambiguous, especially given that the "word 'scientist' had yet to be coined" (15). In its contents, methods, and organisation, Ruston's study is a vital contribution to Romantic scholarship that blurs the binaries of science and art as well as life and death.

The book's detailed use of primary sources, including diary entries and letters from Mary and Percy Shelley, her mother, Mary Wollstonecraft, and others, gives Ruston's analysis an engaging, narrative quality. For instance, Ruston opens with the heart-breaking account of the "life and death of Mary Shelley's first child," using Mary and Percy's shared journal to illustrate their first-hand experience of the precarity between these two states that form the book's central theme (3). In turn, this narrative account allows Ruston to draw careful parallels between Mary and Percy's journal entries and the language Victor uses to describe his creation, right down to the non-gendered pronoun "it" shared by the Shelleys' first child and Frankenstein's Creature (5). This book's addition of scientific diagrams, paintings, and manuscripts heightens its narrative quality in a visually stunning layout fitting of the Bodleian Library's publishing house. As such, Ruston's analysis is accessible to both seasoned academics and newcomers to literary criticism, presented with a quiet wit, beautiful design, and reassuring authority.

While perhaps beyond the scope of this book, I would be interested to see how other scholars use Ruston's analysis with wider criticism on *Frankenstein*, particularly those generic discussions around the novel as an early exemplar of the Gothic and Science Fiction. For instance, while Ruston briefly notes how Shelley's novel "seems to anticipate our current worries about artificial intelligence," a comparative analysis of *Frankenstein* with a more recent reimagining such

as *Frankissstein* by Jeanette Winterson (2019) in the context of the nineteenth century's vitality debate could produce exciting results (121). Similarly, though Ruston draws parallels between the "first recorded successful blood transfusion," vampirism, and the discussion of whether Victor or his Creature is "the real monster," there is room for a thorough examination of how uncertainties about life and death informed the Gothic novel's conception of monstrosity in the eighteenth and nineteenth centuries (31, 34). While Ruston's book provides a definitive guide to *Frankenstein* and its contemporary debates about vitality, there is much more to say on the implications of this intersection between literature, science, and medicine.

Overall, *The Science of Life and Death in Frankenstein* is a fresh and original analysis of Shelley's well-loved novel. Its strengths lie in fusing scientific and literary discourses in a nuanced way, demonstrating Ruston's specialist knowledge of this period as they draw out lesser-known figures and reveal their significant influences on Romantic writing. While its meticulous focus on the themes of life and death in Mary Shelley's seminal work is the book's central concern, it also encompasses commentary on animal rights in scientific experiments, medical consent, censorship, what characterises personhood, and much more. As Ruston highlights in their Afterword, "many of the debates discussed in *Frankenstein* are complicated and [...] have not yet been fully resolved," making this book urgent for the twenty-first century in understanding life, death, and all the gruesome possibilities in-between (121). *The Science of Life and Death in Frankenstein* asks its reader to reconsider our separation of science and art, fiction and non-fiction, revealing their explosive imaginative possibilities.

#### BIONOTE

**Ruth-Anne Walbank** is an MA graduate from Lancaster University, United Kingdom (UK), specialising in nineteenth-century literature, religion, and the Gothic. She is commencing her PhD on hellscapes of ecological crisis in the long nineteenth century in 2022 at the University of Warwick, UK. She also co-founded the creative writing outreach programme, the Literary Lancashire Award, and has organised conferences such as "New Thinking for New Times" and "EDI for the Modern University." As a research associate at St Mary's University, Twickenham, Ruth coordinates fieldwork with Catholic schools around environmental education and theology.