



Mediating Monstrosity: Media, Information, and Mary Shelley's "Frankenstein"

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Mediating Monstrosity: Media, Information, and Mary Shelley's *Frankenstein*

OVER THE COURSE OF THE LAST TWO DECADES, ROMANTICIST SCHOLARSHIP addressing interactive electronic hypertext environments has relied heavily upon Mary Shelley's novel *Frankenstein* (18 r8, 183 r) in an almost uncanny manner. In 2001, for example, Eric Sonstroem and Ron Broglio began collaborating to create *FrankenMOO*, an immersive electronic environment derived from Shelley's novel and hosted on the Romantic Circles website at the University of Maryland. Like any MOO, or "Multi-User Dimension, Object Oriented," *FrankenMOO* is designed to employ the internet to offer real-time interactions between multiple writers, readers, and users. As Sonstroem describes them, "MOOs offer the freewheeling interactivity of a connected set of chat rooms, but they frame this unstructured interaction within a relatively fixed and hierarchical textual landscape."¹ Sonstroem and Broglio designed *FrankenMOO* to be much more than simply a recreation or critical and theoretical interpretation of Shelley's novel and certainly something other than simply a MOO whose themes are derived from *Frankenstein*.² Equipped with an Encore Xpress HTML interface, the Romantic Circles Villa Diodati MOO relies heavily upon the precise use of the original language from Shelley's novel for character, location, and object descriptions, and *FrankenMOO*'s interactive figures actually utter lines directly from the various versions of her original text.³ In an even more recent example, in April 2009, Stuart Curran's Romantic Circles Electronic Edition of *Frankenstein* went live online

1. Eric Sonstroem, "Do You Really Want a Revolution? CyberTheory Meets Real-Life Pedagogical Practice in *FrankenMOO* and the Conventional Literature Classroom," *College Literature* 33, no. 3 (Summer 2006): 150.

2. Sonstroem, "Do You Really Want a Revolution?," 152.

3. Sonstroem, "Do You Really Want a Revolution?," 152.

after fifteen years in the making. Collaborating with Jack Lynch, Sam Choi, Laura Mandell, and a number of other scholars, Curran has produced with his multimedia hypertext "Pennsylvania Electronic Edition" of Shelley's novel one of the most comprehensive single editions of any text in any form, print or electronic, to date.⁴

But why have recent Romanticist research and scholarship come to focus attention so heavily and specifically on Shelley's *Frankenstein* in the production of these immersive electronic environments, hypertext online resources, and digital humanities initiatives? Is there something unique about this novel which allows it to be employed for such projects or, perhaps, actually draws or even prompts scholars to turn to it while pursuing this type of work? A related question might be the following: why have scholars not turned *as often* in this form of research to other equally rich and complex texts from the Romantic era such as Samuel Taylor Coleridge's *The Rime of the Ancient Mariner* (1798, 1817), William Godwin's *Caleb Williams* (1794), William Wordsworth's *The Prelude* (1799, 1805, 1850), or Percy Bysshe Shelley's *Queen Mab* (1813) to name but only a few possible alternatives? Indeed, while electronic editions of rather expansive and complex texts ranging from Erasmus Darwin's *The Temple of Nature* (1803) to Coleridge's and Wordsworth's *Lyrical Ballads* (1798-1805) certainly exist, few, if any, electronic resources come even close to approximating the scope and scale of projects involving Shelley's *Frankenstein*.⁵ Sonstroem perhaps sums up the magnitude of such *Frankenstein-based* projects best: "We hoped [with *FrankenMOO*] to create a monster that was beyond our control."⁶

The creators of *FrankenMOO* and the collaborators of the "Pennsylvania Electronic Edition" of Shelley's novel have provided some answers to these and other related questions concerning the reasoning behind turning to *Frankenstein* for the source of their various research projects. Lynch, for ex-

4. Jack Lynch, "Unexplored Regions: The Pennsylvania Electronic *Frankenstein* as Variorum Edition," in *Literature and Digital Technologies: W. B. Yeats, Virginia Woolf, Mary Shelley, and William Gass*, ed. Karen Schiff (Clemson: Clemson University Digital Press, 2003), 50.

5. Electronic texts that allow for dynamic collation (such as *The Temple of Nature* and *Lyrical Ballads*) are available on the Romantic Circles website. See Erasmus Darwin's *The Temple of Nature*, ed. Martin Priestman, *Romantic Circles Electronic Editions*, accessed May 18, 2011, http://www.rc.umd.edu/editions/darwin_temple/. Also see Samuel Taylor Coleridge's and William Wordsworth's *Lyrical Ballads* (1789-1805), eds. Ron Tetreault and Bruce Graver, *Romantic Circles Electronic Editions*, accessed May 18, 2011, <http://www.rc.umd.edu/editions/LB/>. For a relevant treatment of Coleridge's *Christabel* and hypertext, see Chris Koenig-Woodyard's "A Hypertext History of the Transmission of Coleridge's *Christabel*, 1800-1816," *Romanticism on the Net* 10 (May, 1998), accessed May 18, 2011, <http://www.erudit.org/revue/ron/1998/v10/005806ar.html>.

6. Sonstroem, "Do You Really Want a Revolution?," 151.

ample, has noted that Curran's group chose to focus attention on *Frankenstein* because these collaborators understood Shelley's novel itself in terms of the logic of hypertext. As Lynch explains, "The novel is a natural for hypertext: every page is filled with pointers to other texts, both within the novel itself and beyond Shelley's text to a world of contemporary contexts," and, as a result, Curran's edition of the novel is probably best understood as an immense variorum.⁷ Sonstroem explains that he and Broglio turned to Shelley's novel for their *FrankenMOO* because, as these collaborators understand it, "*Frankenstein* is already thematically engaged with the revolutionary dynamics of new technology" and because of the apparent "flexibil[ity]" of Shelley's narrative.⁸ However, many (if not the majority) of the texts from this period have been theorized all too persuasively for their focus on intertextuality and supreme flexibility of narrative, and so these questions concerning the ostensible uniqueness of Shelley's text for electronic scholarship remain unanswered.

In what follows, I expound upon the logic and reasoning provided by Sonstroem, Lynch, Curran and others to explain the continuous and frequent use of Shelley's novel for the purposes of contemporary digital humanities research and scholarship. I do so, however, neither simply to elaborate upon the ways in which *Frankenstein* is a deeply intertextual (or potentially "hypertextual") novel nor to track this text's reliance upon or indebtedness to technology, *per se*. Of course, both of these types of projects have already been accomplished quite successfully by a host of eminent scholars of Romanticism.⁹ Rather, to account for the appropriation of *Frankenstein* for the purposes of various information technologies of the present, I focus on the indebtedness of Shelley and her text to the late-eighteenth- and early-nineteenth-century cultures of information and media. Shelley's *Frankenstein* is a novel deeply concerned with the nature and function of "information" and especially with media(tion). This text captures the dramatic tension between two diametrically opposed and competing conceptions of information and information's various means of embodiment that, as I reveal, were available to Shelley during the first decades of the nineteenth century. The novel's first representation of information and embodiment, characterized and espoused by Victor Frankenstein, is a

7. Lynch, "Unexplored Regions," 51, 54.

8. Sonstroem, "Do You Really Want a Revolution?," 151.

9. Along with Sonstroem and Lynch, see Mark Hansen, "'Not Thus, after All, Would Life Be Given': 'Technesis,' Technology and the Parody of Romantic Poetics in *Frankenstein*," *SiR* 36, no. 4 (Winter 1997): 575--609. Also see Fred Botting, "Reading Machines," in *Gothic Technologies: Visuality in the Romantic Era*, ed. Orrin N. C. Wang, *Romantic Circles Praxis Series*, accessed October 1, 2010, <http://www.rc.umd.edu/praxis/gothic/botting/hotting.html>.

vision of information as abstract (i.e., "virtual") reality. Victor's representation is "virtual" in the Deleuzian sense of the term. "The virtual," Gilles Deleuze explains,

is opposed not to the real but the actual. *The virtual is fully real in so far as it is virtual.* . . . Indeed, the virtual must be defined as strictly a part of the real object-as though the object had one part of itself in the virtual into which it plunged as though into an objective dimension.¹⁰

For Victor, as we shall see, information is best understood as a virtuality abstracted from (though indeed connected complexly to) the material substrates that may variously embody it. Resultantly, Victor understands information as dematerialized and abstract (though nonetheless "real," also in the Deleuzian sense of that term). Otherwise stated, Victor perceives *matter as a medium* for embodying information. Later in the novel, however, Shelley challenges Victor's view with the conception of information and embodiment provided by Victor's own creature. According to the creature, who in the novel's final paragraphs promises to bum his monstrous body to ashes on a funeral pile in order that his "remains may afford no light to any curious and unhallowed wretch, who would create such another" as himself, information is best understood as inherently and irreducibly bound up with and reliant upon materiality.¹¹ In other words, for the creature, information is always relentlessly embodied. But where, aside from the imagination, could Shelley have derived such a view of matter as medium and Victor's view of information and matter as decoupled? As we shall see, in the early-eighteenth century Gottfried Wilhelm Leibniz proposed an argument for matter as medium and a metaphysics that the Shelleys inherited through their investments in both *Naturphilosophie* and the discourse of the Romantic-era sciences of electricity. If Shelley saw matter as medium, she would also likely have perceived matter as simply another substrate (much like the manuscript paper on which she penned her famous text) for the embodiment and conveyance of abstract knowledge and information.

This article thus makes five major interventions concerning both the primary text of Shelley's novel as well as secondary readings of *Frankenstein*. For one thing, I underscore the significance of the nature and function of information and media in (and on) the novel. By drawing upon the history of the discourse of electromagnetism and other sciences of electricity, I

10. Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994), 208-9 (Deleuze's emphasis).

11. Mary Wollstonecraft Shelley, *Frankenstein* (original 1818 text), eds. D. L. Macdonald and Kathleen Scherf (Peterborough: Broadview, 1999), 243. Subsequent references to the novel will be noted parenthetically.

show that not only did a number of unprecedented developments in media and information technology and theory occur during the Romantic period but also propose that such technological innovations and theoretical developments likely shaped Shelley and her text. In order to produce such an argument, I necessarily turn to close readings of *Frankenstein* (and especially its early chapters) in order specifically to reveal the ways that we can newly appreciate Victor's natural philosophy as fundamentally based upon concerns deriving from early-nineteenth-century issues involving media and information technologies and theories. These close readings of the novel constitute the second major project of this essay. Thirdly, after establishing this reading of Victor's natural philosophy, I turn to an analysis of the complex and rather complicated overall structure of the novel itself, focusing my examination on the elaborate frame narrative and nested narrative structures that comprise the textual apparatus that is *Frankenstein*. The complicated structure of this text continuously draws attention to the novel's own physicality as mediated form, as the reader is repeatedly reminded of the fact that the epistolary novel is to be always understood as a set of interconnected (though sometimes seemingly unrelated) documents (e.g., Robert Walton's letters and journal, Victor's manuscript as transcribed by Walton and mailed in his letters, the various narratives and stories told by a range of characters) that have been sutured together into a monstrous body of information that the reader necessarily pieces together so as to make sense of the form of the novel's totality (not only diegetically but extradiegetically as well). The parallels between the monster's fragmented body and the novel as a sutured-together information structure and mediated narrative apparatus then become quite obvious. In this context, it appears that the novel's diegesis inspires, or perhaps instigates, a type of thinking that the novel's structure itself comes to embody. Furthermore, once we understand the ways in which Shelley's text is both conceptually and formally self-conscious of and indeed reliant upon the nature and function of information and media, we can account for why recent Romanticist scholarship has so often turned to this novel in digital humanities initiatives—the text's themes and structures themselves generate, if not beg for, such analysis, research, and application. Finally, with these four concerns of the essay in mind, we may more clearly understand a fifth. Shelley's novel has often been referred to as a "message" from the past sent to warn us about the dystopian technoscience of modernity and post-modernity and as offering allegories which have been seen as ranging from admonitions (and even premonitions) of developments in nuclear warfare, biotechnology, artificial intelligence, and genetics and biochemistry.¹² This

12. See especially: Courtney S. Campbell, "Biotechnology and the Fear of *Frankenstein*,"

novel has been theorized for its various embedded ethical commentaries and forewarnings. In addition to these potential allegories of technoscience, Shelley's novel must be understood as an admonition concerning the complexities, if not the discontents, involving the monstrous matrix of our own historical moment's cybernetics and informatics. The novel suggests that thinking about media in terms of monstrosity often necessitates the invention of dynamic media systems that are beyond a given creator's control. Or, as Phillip Thurtle and Robert Mitchell recently ask in their analysis of contemporary biological art constructions, "If the medium is the message, as [Marshall] McLuhan contended, then what happens when the medium comes to life?"¹³ As I argue, Shelley raises this very question with *Frankenstein*, though, of course, in relation to the media of her own day. Once the novel is adequately historicized and theorized for its own interventions concerning media and information theory and technology, Victor's "hideous narration" (220) and Shelley's "hideous progeny" are given novel meaning and context.¹⁴

British Romantic Biomedica, the Discourse of the Sciences of Electricity, and *Frankenstein*

Victor perceives information as more essential than materiality. To borrow a crucial phrase from N. Katherine Hayles, I propose that Victor privileges information over material instantiation and comes to center his attention on "how *information lost its body*."¹⁵ Through Victor, Shelley thus anticipates an interpretation of information that, as Hayles has shown, only becomes prevalent in the mid-twentieth century through the cybernetic paradigm that was "founded on a view of information that conceptualized it as distinct from the material substrate in which it was embedded."¹⁶ Otherwise stated, Victor's understanding of information is something like what Eugene Thacker refers to as the "biomedica" view of information in which biological materiality is seen as essentially only a substrate for information. As Thacker defines the term,

Cambridge Quarterly of Healthcare Ethics 12 (2003): 342-52; Theodore Ziolkowski, "Science, *Frankenstein*, and Myth," *The Sewanee Review* 89, no. 1 (Winter 1981): 34-56; Teresa Heffernan, "Bovine Anxieties, Virgin Births, and the Secret of Life," *Cultural Critique* 53 (Winter 2003): 116-33; Frances Ferguson, "The Nuclear Sublime," *Diacritics* 14, no. 2 (Summer 1984): 4-10; and Maureen Noelle McLane, "Literate Species: Populations, 'Humanities,' and *Frankenstein*," *ELH* 63, no. 4 (Winter 1996): 959-88.

13. Mitchell and Thurtle, eds., *Data Made Flesh: Embodying Information* (London: Routledge, 2004), 18.

14. Mary Wollstonecraft Shelley, "Introduction (1831)," in *Frankenstein*, 358.

15. Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), 2.

16. Hayles, "The Human in the Posthuman," *Cultural Critique* 53 (Winter 2003): 136.

"biomedia" is an instance in which biological components and processes are technically recontextualized in ways that may be biological or nonbiological. Biomedia are novel configurations of biologies and technologies that take us beyond the familiar tropes of technology-as-tool or the human-machine interface. . . . Biomedia are particular mediations of the body, optimizations of the biological in which "technology" appears to disappear altogether.¹⁷

Of course, by "biomedia" Thacker primarily refers to contemporary configurations of biological materials and technologies issuing from fields ranging from molecular biology and genetics to biotechnology and bioinformatics.¹⁸ However, his biomedia paradigm also relies upon a more trans-historical philosophy of the relationship between information and materiality. Nicely summarizing Thacker's biomedia view of this relationship, Hayles explains that "[j]ust as the pertinent aspect of a newspaper is not that it happens to be made of plant fiber but that it is printed with words, so in a biomedia view flesh becomes the material carrier for the information it expresses."¹⁹ In other words, according to the biomedia paradigm, information is understood as the primary site for the control and transfiguration of organic (i.e., biological) materials. Once Victor has synthesized the scientific information concerning "the cause of generation and life" necessary to bestow "animation upon lifeless matter," he begins collecting and arranging his materials for "the creation of a human being" through the suturing together of largely arbitrary body parts (80, 81). As Victor assembles his materials in this manner, his laboratory becomes that infamous "workshop of filthy creation" (82). Drawing from Friedrich A. Kittler's concept of "discourse network," Richard Menke has recently proposed that we "describe the creature as a headily powerful blend of inscription and technology that takes on a life of its own."²⁰ Indeed, for Victor, as I argue, the creature's body is of importance primarily for its purpose in serving as the material vessel for the undisclosed scientific information that he has "discover[ed]" (80). Thus taking Menke's suggestion to understand the creature as "discourse network" one step further, I propose that precisely because of his unique view of information, Victor envisions the creature's body literally as a form of media—that is, as the abstract (i.e., "scientific") information of natural philosophy that he has synthesized through his studies of occultism, alchemy, and cutting-edge Romantic science. In other words, Victor's monster becomes the first literary example

17. Eugene Thacker, *Biomedia* (Minneapolis: University of Minnesota Press, 2004), 5-6.

18. Thacker, *Biomedia*, 2-7.

19. Hayles, "The Human in the Posthuman," 136-37.

20. Richard Menke, *Telegraphic Realism: Victorian Fiction and Other Information Systems* (Stanford: Stanford University Press, 2008), 7.

of what I am calling "Romantic biomedial."²¹ The figure of the creature thus serves as a prime example of the fact that the Romantics were radically reconceptualizing and reimagining what "media" could actually mean or even be. Moreover, the mediated body of scientific information that is Victor's creature may be aligned with other revolutionary technical and industrial innovations of the Romantic period—including new electromagnetic technologies, pre-cinematic magic lantern shows, and especially the phantasmagoria that, much like Shelley's creature, intimately associates new media with horror, virtuality, and especially with the gothic. While it may be a tempting and certainly a fascinating project, this essay will *not* trace the now perhaps obvious trajectory beginning with the creature's monstrously mediated body from Shelley's novel and running through, while mutating with, mid-nineteenth-century stage performance spectacles of the creature as produced by Richard Brinsley Peake and Henry Milner, Thomas Edison's early-cinematic image of the creature's body, Boris Karloff's performance as the creature for Universal Pictures, or subsequent filmic and new media depictions of this monstrous body including Shelley Jackson's *Patchwork Girl* (1995), a work of hypertext (electronic) fiction.²² Instead, I historicize and theorize Shelley's vision of information and mediation through what might initially appear to be an unlikely source—the discourse of the sciences of electricity.

To raise again a key question posed earlier in this article, without the cybernetic paradigm at her disposal, where could Shelley have derived her conception and representation of information as disembodied from material substance? To answer this question we must remember that the cybernetic paradigm is deeply rooted in the history of electricity and especially in the history of the discourse of electromagnetism, a body of scientific knowledge that was, of course, newly emerging in the Romantic era and that, as many critics have shown, Shelley drew upon heavily in her novelistic depiction of both Walton's polar voyage in search of the magnetic north pole and, perhaps more obviously, with Victor's animation of his creature

21. In a related context, Victor also produces with his creature what a number of critics cite as the first literary "cyborg." See Chris Hables Gray, Steven Mentor, and Heidi J. Figueroa-Sarriera, "Cyborgology: Constructing the Knowledge of Cybernetic Organisms," in *The Cyborg Handbook*, eds. Chris Hables Gray, Steven Mentor, and Heidi J. Figueroa-Sarriera (London: Routledge, 1995), 5.

22. See Richard Brinsley Peake, *Presumption: Or the Fate of Frankenstein*, in *Seven Gothic Dramas*, ed. Jeffrey Cox (Athens: Ohio University Press, 1992); Henry M. Milner, *Frankenstein, or, The Man and the Monster: A Melodrama in Two Acts* (London: J. Duncombe & Co., 1826); Thomas A. Edison, *Frankenstein*, dir. J. Searle Dawley (Edison Studios, 1900); *Frankenstein*, dir. James Whale (Universal Pictures, 1931); and Shelley Jackson, *Patchwork Girl*, (Eastgate Systems, 1995).

through the "spark" of electrocution (84).²³ Tracing the origins of the cybernetic paradigm within developments in theories of electromagnetism from this period allows us to understand better how Shelley might have come to perceive information not only in a more traditional materialist view but also as part of a complexly mediated field, as the discourse of electromagnetism came to represent the phenomenon during this era.²⁴ Historian of science Barbara Giusti Doran explains the significance of the paradigm shift occurring with the birth of electromagnetism:

In the electromagnetic view of nature, Western science experienced its greatest disjuncture since the seventeenth-century Newtonian synthesis. For the first time, numerous phenomena that could find no explanation in the context of the mechanical worldview had an alternative, encompassing metaphysic. By the end of the nineteenth century, the mechanical notions of "atoms in a void" and "forces acting between material particles" had been replaced by the notions of the electromagnetic field as a nonmaterial, continuous plenum and material atoms as discrete structural-dynamic products of the plenum.²⁵

Doran meticulously tracks the origins of Michael Faraday's revolutionary lines of electric and magnetic force and physical theories concerning the "luminiferous aether" that had taken root between 1825 and 1850 back through the Romantic and Enlightenment eras all the way to seventeenth-century conceptions of and challenges to philosophies of materialism including those of Rene Descartes and Leibniz. In doing so, she reveals that the revolution which had developed by the mid-nineteenth century into "a conscious rejection of the mechanical concepts of atom, void, and force in favor of the plenum and a field-theoretic notion of matter" must be

23. See Jessica Richard, "A Paradise of My Own Creation": *Frankenstein* and the Improbable Romance of Polar Exploration," *Nineteenth-Century Contexts* 25, no. 4 (2003): 295-314. Also see Laura E. Crouch, "Davy's *A Discourse, Introductory to a Course of Lectures on Chemistry*: A Possible Scientific Source of *Frankenstein*," *Keats-Shelley Journal* 27 (1978): 35-44.

24. Carlos Baker has shown that Percy Shelley accepted the materialist view of matter until late 1813. See *Shelley's Major Poetry: The Fabric of a Vision* (Princeton: Princeton University Press, 1948), 35. Marilyn Butler has argued that Mary Shelley's representation of Victor's quasi-vitalist natural philosophy is "serio-comic" and that Shelley thus embraces the materialist cause in writing *Frankenstein*. See her introduction to *Frankenstein: or, The Modern Prometheus: The 1818 Text*, by Mary Wollstonecraft Shelley, ed. Marilyn Butler (Oxford: Oxford University Press, 1994), xxi.

25. Barbara Giusti Doran, "Origins and Consolidation of Field Theory in Nineteenth-Century Britain: From the Mechanical to the Electromagnetic View of Nature," in *Historical Studies in the Physical Sciences*, ed. Russell McCormach, vol. 6 (Princeton: Princeton University Press, 1975), 134.

placed especially in the context of Leibniz's early philosophies of matter and force.²⁶

Theories of matter had become largely demechanized by the mid-nineteenth century through the work of individuals such as James Clerk Maxwell and his electromagnetic theory of light. By the 1890s, the field-theoretic conception of matter was cemented by Joseph Larmor's synthesis of optical, electromagnetic, and atomic theory through the first electron theory of matter which viewed mass as a phenomenon of electromagnetism.²⁷ However, as Doran reveals, this late-nineteenth-century field-theoretic view—which would be essential for the arrival of the cybernetic paradigm—would have been impossible without seventeenth- and eighteenth-century investigations challenging traditional mechanical philosophies of matter.²⁸ With his *Monadology* (1714), Leibniz was, perhaps, the most important early figure in this trajectory. Leibniz explains at the start of this text, "The Monad, of which we shall here speak, is nothing but a *simple* substance, which enters into compounds. By 'simple' is meant 'without parts.'"²⁹ The *Monadology* thus opens with Leibniz's desire to make sense of the complex relationship between continuous substances and the elemental parts that—paradoxically—must constitute them. "And compounds," he subsequently states,

are in this respect analogous with [*symbolisent avec*] simple substances. For all is a *plenum* (and thus all matter is connected together) and in the *plenum* every motion has an effect upon distant bodies in proportion to their distance, so that each body not only is affected by those which are in contact with it and in some way feels the effect of every-thing that happens to them, but also is mediately affected by bodies adjoining those with which it itself is in immediate contact. Wherefore it follows that this inter-communication of things extends to any distance, however great.³⁰

Doran explains that Leibniz's work thus presents "[t]he concept of substance as a continuous plenum of force" and insists upon "the reality of a *medium* that is the locus of optical and gravitational action."³¹ In other words, Leibniz's metaphysics calls for an alternative conception to mechanical philosophy by fundamentally reconceiving matter as a continuum, and

26. Doran, "Field Theory," 134–35.

27. Doran, "Field Theory," 135.

28. Doran, "Field Theory," 138.

29. Leibniz, *The Monadology and Other Philosophic Writings*, trans. and ed. Robert Latta (Oxford: Oxford University Press, 1925), 217.

30. Leibniz, *Monadology*, 25er–51.

31. Doran, "Field Theory," 142 (my emphasis).

therefore, though still admitting the reality of the atom, theorizes matter *as* medium.

Leibniz's uptake and popularization by the German Romantics is widely recognized by scholars of the period. Although Leibniz witnessed no major proponents of his philosophic doctrines during his own lifetime, Catherine Wilson has shown that

(b)oth Kant and Schelling made statements to the effect that only their age had been able to understand and restore the real Leibniz. . . . The young Schelling was, of all Leibniz's end-of-century readers, perhaps the most convinced by the *Monadology*.³²

Of course, Immanuel Kant and Friedrich Wilhelm Joseph von Schelling were not unique in their fascination with the philosopher. Johann Gottfried von Herder was absorbed by Leibniz's philosophic system, as was Friedrich von Schlegel.³³ Leibniz's work also significantly influenced the development of *Naturphilosophie*.³⁴ In fact, through Leibniz's impact on Schelling's vision of *Naturphilosophie*, his work shapes the discourses of electrochemistry and electromagnetism (and, as we shall see, impacts the fiction of Mary Shelley through such discourses). Johann Wilhelm Ritter, the renowned German electrochemist, was not only an acquaintance of Herder and Johann Wolfgang von Goethe but was, moreover, deeply influenced by Schelling's *Naturphilosophie*.³⁵ Following Schelling's vitalist philosophies as well as the thought of other *Naturphilosophen* of the University of Jena (e.g., F. Schlegel) espousing vitalism, Ritter first articulates the science of electrochemistry in the first decade of the nineteenth-century and ultimately shapes Hans Christian Ørsted's discovery and explanation of the phenomenon of electromagnetism.³⁶

32. Catherine Wilson, "The Reception of Leibniz in the Eighteenth Century," in *The Cambridge Companion to Leibniz*, ed. Nicholas Jolley (Cambridge: Cambridge University Press, 1995), 469-70.

33. Wilson, "Reception of Leibniz," 467-68.

34. Doran, "Field Theory," 146.

35. See Walter D. Wetzels, "Johann Wilhelm Ritter: Romantic Physics in Germany," in *Romanticism and the Sciences*, eds. Andrew Cunningham and Nicholas Jardine (Cambridge: Cambridge University Press, 1990), 203-4. Also see Richard Holmes, *The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science* (New York: Pantheon, 2008), 329.

36. For an investigation of German vitalist science, see Walter D. Wetzels, "Aspects of Natural Science in German Romanticism," *SiR* 10, no. 1 (Winter 1971): 44-59. For an account of the foundation of the field of electrochemistry by Ritter, see Wetzels, "J. W. Ritter: The Beginnings of Electrochemistry in Germany," *Proceedings of the Symposium on Selected Topics in the History of Electrochemistry* 78-6, eds. George Dubpemell and J. H. Westbrook (Princeton: The Electrochemical Society, 1978), 68-73. For an account of Ritter's impact on

As a number of editors and critics of *Frankenstein* suggest, Percy Shelley's citation of those "physiological writers of Germany" in the first sentence of his anonymous preface to the 1818 edition of the novel is made in reference to Ritter, Schelling, Schlegel and other Jena-circle Romantics.³⁷ The Shelleys' interest in these German "physiological writers" may therefore be understood not only as a preoccupation with the vitalist-mechanist debates of the early-nineteenth century (as such interests are traditionally explained by scholars of Romanticism) but also as a fascination with a much older and more basic metaphysics of matter deriving ultimately from the *Monadology* (and, thus, as a historical trajectory linking Leibniz, Schelling, Ritter, and the Shelleys).³⁸ That is to say, Percy and Mary Shelley are drawn to the ideas of figures such as Schelling and Ritter because, in *Naturphilosophie* and the discourse of the Romantic-era sciences of electricity, these authors locate the vestiges of an alternative theory of matter and mediation stemming from a Leibnizian metaphysics of matter as medium.³⁹

In *Frankenstein* Shelley asks her audience to look at the world through Victor's eyes and, in effect, to see the possibility of perceiving matter as something completely novel—that is, to look at *matter* and to see it *as medium*, because the body of Victor's creature is represented by the novel as a composite mediation of synthesized (scientific) information. This history of the discourses of electrochemistry and especially electromagnetism can therefore account for Shelley's depiction of Victor's own metaphysics (and

Orsted's work in electromagnetism, see Roberto de Andrade Martins, "Orsted, Ritter, and Magnetochemistry," in *Hans Christian Orsted and the Romantic Legacy in Science: Ideas, Disciplines, Practices*, eds. Robert M. Brain, Robert S. Cohen, and Ole Knudsen, vol. 241 of *Boston Studies in the Philosophy of Science* (Dordrecht: Springer, 2007), 339-85.

37. Macdonald and Scherf, *Frankenstein*, 19. In his Norton edition of the novel, J. Paul Hunter notes that these "German physiologists" also included, among others, Johann Friedrich Blumenbach. See *Frankenstein: The 1818 Text*, ed. J. Paul Hunter (New York: Norton, 1996), 5. For an account of British interests in Ritter during the period, see Holmes, *Age of Wonder*, 328. Percy Shelley writes: "The event on which this fiction [*Frankenstein*] is founded has been supposed, by Dr. (Erasmus) Darwin, and some of the physiological writers of Germany, as not of impossible occurrence" (Macdonald and Scherf, *Frankenstein*, 47).

38. See Butler, introduction to *Frankenstein*, xv-xxi, and Holmes, *Age of Wonder*, 305-36. Also see Sharon Ruston, *Shelley and Vitality* (New York: Palgrave Macmillan, 2005).

39. In a relevant study, Tilottama Rajan claims that "Leibniz helps us to understand several elements in the Godwinian theory of possibility that subtends" Shelley's *Valperga: or, the Life and Adventures of Castuccio, Prince of Lucca* (1823) (91). She proposes that William Godwin was influenced by the *Monadology* and suggests that "Leibniz permits Godwin, and through him Mary Shelley, to retain a necessitarian concept of character without allowing necessity to foreclose possibility" (95). My work thus provides added context and support for Rajan's provocative considerations of the connections between Shelley's fiction and Leibniz's philosophy. See her "Between Romance and History: Possibility and Contingency in Godwin, Leibniz, and Mary Shelley's *Valperga*," in *Mary Shelley in Her Times*, eds. Betty T. Bennett and Stuart Curran (Baltimore: Johns Hopkins University Press, 2000), 88-102.

physics) of matter, medium, and information.⁴⁰ Seen in this light, the potential for Leibniz's philosophic influence on Shelley also gives new context to what has already been shown to be the almost certain impact of Sir Humphrey Davy's work on Shelley's novel and especially the ways in which she likely drew from Davy's explanations of the employment of galvanic electricity in the Romantic-era search for the discovery of the principle of "life force."⁴¹ In short, Shelley's depiction of Victor's natural philosophy is indebted not only to Davy's representation of galvanic chemistry but also to a Leibnizian metaphysics of matter.

"Real Information" and Unreal Bodies in *Frankenstein*

While we now have an historical account of the pre-cybernetic ways in which Shelley might have arrived at such a view of the creature's body, we must track a similar route through the logic of her novel to understand better the ways in which Victor himself arrives at such a vision of his creation. Once Victor arrives in Ingolstadt and is acquainted with both M. Krempe and M. Waldman, his university professors, he becomes utterly obsessed with collecting information in his project to "pursu[e] nature to her hiding places" in order to discover "the cause of generation and life" (82, 80). "[N]atural philosophy," Victor states,

and particularly chemistry, in the most comprehensive sense of the term, became nearly my sole occupation. I read with ardour those

40. Although Mary Shelley possessed something like a proto-cybernetic understanding of the relationship between information and mediation via her various source materials, her conception and representation of this relationship was, of course, *significantly* different from the ways in which the discourses of cybernetics and field theory would come to theorize and depict such matters. For one thing, while Shelley's representation of matter as medium has numerous affinities with a field-theoretical metaphysics, the Leibnizian "plenum" is obviously different from late-nineteenth and mid-twentieth-century treatments of these ideas. As Maxwell explains, investigations of what had been previously referred to as the "plenum" must be recognized and interpreted as acting "according to mathematical laws" (459). Although a renowned mathematician, Leibniz did not employ or call for a mathematical investigation of the plenum in the *Monadology*, and therefore the dissemination of his work (as taken up by *Naturphilosophie* and the discourse of the sciences of electricity) was not a specifically mathematical one. See James Clerk Maxwell, "A Dynamical Theory of the Electromagnetic Field," *Philosophical Transactions <of the Royal Society of London* 155 (1865): 459-512. Furthermore, although Victor's notion of the relationship between information and mediation is akin to the cybernetic representation of information, Shelley does not describe information in terms of what Hayles has shown to be either cybernetics' "construction of (human) neural structures . . . as flows of information" or its "construction of artifacts that translat[e] information flows into observable operations" (50). See Hayles, "Contesting for the Body of Information: The Macy Conferences on Cybernetics," in *How We Became Posthuman*, 50-83.

41. Crouch, "Davy's *A Discourse*," 36.

works, so full of genius and discrimination, which modern inquirers have written on these subjects. I attended the lectures, and cultivated the acquaintance, of the men of science of the university; and I found even in M. Krempe a great deal of sound sense and *real information*. (77-78, my emphasis)

The information that Victor gleans while "engaged, heart and soul" in his academic pursuits, ultimately leads him to ponder where "the principle of life proceed[s]" and famously takes him into "vaults and charnel houses" where he closely examines "the change from life to death, and death to life" finally to arrive at the secret "of bestowing animation upon lifeless matter" (78, 79, 80). Fascinated with the "information" that he has uncovered in his laborious studies, Victor states:

What had been the study and desire of the wisest men since the creation of the world, was now within my grasp. Not that, like a magic scene, it all opened upon me at once: the information I had obtained was of a nature rather to direct my endeavours so soon as I should point them towards the object of my search, than to exhibit that object already accomplished. (80)

In the next paragraph of the novel, Shelley contrasts Victor's use of the word "information" here, by which, according to the term's closest referent in the *Oxford English Dictionary*, he means abstract "intelligence" or "[k]nowledge communicated concerning some particular fact, subject, or event" with a much older adjectival registration deriving from the infinitive "to inform."⁴² In one of the text's first major breaks in narrative voice, Victor switches from his narration of diegetic events to Walton and addresses his transcriber (as well as the reader) of his oral history directly:

I see by your eagerness, and the wonder and hope which your eyes express, my friend, that you expect *to be iriformed* of the secret with which I am acquainted; that cannot be: listen patiently until the end of my story, and you will easily perceive why I am reserved upon that subject. (80, my emphasis)

Through the use of the first person, this defamiliarizing passage brings to the surface of the reader's attention the fact that the tale with which we are engaging is one that is complexly mediated. That is, the story is, in itself, a complicated transmission of narrative information between subjects. Victor here refuses to "inform" Walton, rejecting any participation in shaping the mind or character of his scribe (or, for that matter, of course, of the reader),

42. *Oxford English Dictionary Online*, s.v. "information," s.v. "informed," s.v. "inform."

precisely because of the more abstract and dangerous "information" that he has uncovered. Shelley is careful to underscore the idea that, for Victor, information is abstract, secret, and divorced from the world of lived experience:

[T]his discovery [of "the cause of generation and life"] was so great and overwhelming, that all the steps by which I had been progressively led to it were obliterated, and I beheld only the result. (So)

Victor is left only with "the information [he] had obtained" concerning the cause of generation and life. Shelley thus contrasts the usage of "to be informed" here with her employment of "information" in the immediately preceding paragraph in order to draw the reader's attention to the fact of the various registrations (and formations) of "information" present in the novel.

The more ardently that Victor pursues this secret information, the more his own body wastes and degrades: "My cheek had grown pale with study, and my person had become emaciated with confinement" (82). Victor fully loses track of the importance and significance of physical bodies—including his own—as he becomes increasingly engrossed in his pursuit of "real information" (78). Furthermore, critics have often been perplexed by Victor's decision to suture together dismembered bodies into the monstrous body of the creature: it would have been much more practical for the scientist to perform his experiments on undissected corpses—as was the case with actual work being done on electricity and electrocution during this era.⁴³ However, seen in this context, Victor's twisted perception of embodiment gives new meaning and explanation to his obsession with fragmented and dismembered bodies. Cloistered in scholarly pursuit, Victor goes into hiding in his study and fully loses touch with the primacy of physicality. In so doing, he leaves behind any prioritization of the physical as he enters the realm of abstraction in his burning pursuit of information.

Victor's conception of that "real information" that becomes essential to his animation of the creature just a few pages later in the novel represents a notion of information as something theoretical and removed from the

43. For critics addressing the complexities and role of the fragmentation of the creature's body/the novel, see Chris Baldick, "The Monster Speaks: Mary Shelley's Novel," in *In Frankenstein's Shadow: Myth, Monstrosity, and Nineteenth-Century Writing* (Oxford: Clarendon Press, 1987), 30-62; Daniel Cottom, "Frankenstein and the Monster of Representation," *SubStance* 9, no. 3, issue 28 (1980): 60-71; and Eleanor Salotto, "Frankenstein and Dis(re)membred Identity," *The Journal of Narrative Technique* 24, no. 3 (Fall 1994): 190-211. For scientific work concerning experiments involving electrocution during the Romantic period, see especially Giovanni Aldini, *An Account of the Late Improvements of Galvanism* (London: Cuthell and Martin, and J. Murray, 1803).

actualities of ordinary life and experience. Victor's "information" is very different from words such as "intelligence" and "knowledge." As Simon Schaffer has noted, "The word ['intelligence'] refers both to signals received from without and to the capacity to register and interpret these signals," thus highlighting both the term's basis as factual communication and the comprehension of facts.⁴⁴ Relatedly, "knowledge" is, according to the *Oxford English Dictionary*, the "apprehension of fact or truth with the mind."⁴⁵ Victor perceives the "information" concerning "the cause of generation and life" as abstract, lost, secret, and removed from ordinary lived experience, and his view of "information" thus invokes what Menke would define as the term's "modern sense."⁴⁶ According to Menke, "information becomes fact that has lost its context, signs that have lost their matter, intelligence that has lost its faculties."⁴⁷ Indeed, Victor's "real information" concerning the secret of life is decontextualized and largely disconnected from reality.

Whereas Victor loses touch with the realities of knowledge, intelligence, and lived bodily experience, his creature becomes the living *embodiment* of these very concepts. The creature is careful to convey to Victor his self-awareness of bodily experience and of the various ways in which he has become a sensitive, intelligent being. "I was ... endowed with a figure hideously deformed and loathsome; I was not even of the same nature as man," the creature explains to Victor (145). He continues: "Of what a strange nature is knowledge! It clings to the mind, when it has once seized on it, like a lichen on the rock" (146). Having "continually studied and exercised [his] mind" upon *Paradise Lost*, *Plutarch's Lives*, and the *Sorrows of Werter*—not to mention Victor's own journal of his creation—the creature has become a wise and deeply self-conscious subject (152). Moreover, he understands embodiment and intelligence in ways opposed to Victor's philosophies of information and mediation. Most important, the creature sees his body as essential to his sense of self and irreducibly tied to cognition. In the final pages of the novel, the creature grieves what will become his loss of lived bodily experience following his death. "I shall no longer see the sun or stars, or feel the winds play upon my cheeks. Light, feeling, and sense, will pass away; and in this condition must I find my happiness," he states (244). The creature's final promise to Walton and the reader is that he

44. Simon Schaffer, "Babbage's Intelligence: Calculating Engines and the Factory System," *Critical Inquiry* 21, no. 1 (Autumn 1994): 204. Also cited by Menke, *Telegraphic Realism*, 17.

45. *Oxford English Dictionary Online*, s.v. "knowledge."

46. Menke, *Telegraphic Realism*, 18.

47. Menke, *Telegraphic Realism*, 18.

will immolate himself upon a funeral pile so that his "remains may afford no light to any curious and unhallowed wretch, who would create such another as [he has] been" (243). Shelley concludes her novel with the creature's promise to destroy his body completely: "I shall ascend my funeral pile triumphantly, and exult in the agony of the torturing flames. The light of that conflagration will fade away; my ashes will be swept into the sea by the winds" (244). For the creature, then, information and being are only embodied.

Virtuality and The Structure of *Frankenstein*

Unlike his creature, Victor views information and mediation in ways akin to what Hayles would refer to as the "posthuman" view not only because, as in the posthuman paradigm, Victor privileges information over material instantiation but also, and more important, because in doing so, he enters what Hayles refers to as "the condition of virtuality." As Hayles explains, one often only needs to take "a small step to perceiving information as more mobile, more important, more *essential* than material forms. When this impression becomes part of your cultural mindset, you have entered the condition of virtuality."⁴⁸ Otherwise stated, Victor's natural philosophy concerning the relationship between mediation and information is something like what Deleuze explains as the "actualisation" of the "Idea":

When the virtual content of an Idea is actualised, the varieties of relation are incarnated in distinct species while the singular points which correspond to the values of one variety are incarnated in the distinct parts characteristic of this or that species. . . . Thus, with actualisation, a new type of specific and partitive distinction takes the place of the fluent ideal distinctions. We call the determination of the virtual content of an Idea differentiation; we call the actualisation of that virtuality into species and distinguished parts differentiation.⁴⁹

In Deleuze's theory of the virtual/virtuality, then, through the process of actualization, each differentiation of the virtual content of the Idea comes to correspond to a specific differentiation of the "species." Therefore, for Deleuze, mediation occurs as a one-to-one correspondence between differentiated virtual content and differentiated material part. Because the "discovery [of 'the cause of generation and life'] was so great and overwhelming" for Victor, "all the steps by which [he] had been progressively led to it were obliterated, and [he] beheld only the result" (80). In other words, what Deleuze would refer to as the "differentiation" of Victor's se-

48. Hayles, *How We Became Posthuman*, 19.

49. Deleuze, *Difference and Repetition*, 206-7.

cret "Idea" has been lost to history (or "obliterated," as Victor states), and what he is left with is pure and immediate differentiation—the actualized body of the once "lifeless clay" (i.e., the creature) through the "spark" of electrocution (82, 84).

This reading of *Frankenstein* through the lens of Deleuze also gives new meaning and support to recent scholarship suggesting the novel's investment in virtuality and theorizing the ways in which gothic narratives generally aspire toward the virtual. As Jules Law explains, the "virtual" can be defined as "any form of mediation which purports through novel formal innovations to make its own apparatus transparent; in short, any form which denies its own status as mediation and claims instead the status of pure immanence."⁵⁰ In its formal attempts to mediate the densely complicated set of narrative transmissions between the text's various storytellers and listeners (i.e., receivers of narrative), *Frankenstein* actively gestures toward not only what Law refers to as the drive for "pure immanence" that often characterizes gothic narrative but also toward a Deleuzian virtuality. The novel desperately wishes to simulate the found object, whether that found object is the intercepted letters supposedly mailed to Mrs. Margaret Saville in England, Walton's transcription of Victor's tale in manuscript form, the documents that the creature has apparently collected during his stay in the hovel adjacent to the De Lacey cottage, or other of the text's ostensibly "real" artifacts. However, the novel inherently fails in such a project through its variety of defamiliarizing interruptions in narrative voice (the text's repeated intrusions of the first person, for example), and it does so precisely because Shelley is urging her readers to recognize the simulacrum of "real information" that the text itself purports to be. *Frankenstein* thus ultimately directs readerly attention to the virtuality of the novel's narrative form and structure in its desires to become transparent.

As many critics have pointed out, *Frankenstein* becomes a rather complex frame narrative, a nested narrative structure of story within story. Beth Newman nicely summarizes the novel's nested narratives:

Frankenstein . . . contains an elaborate series of frames. Working from the outside in we start with an epistolary narrative, the letters of a Captain Walton to his sister **Mrs.** Saville, who remains safely at home in England while he seeks fame, glory and the North Pole. His letters announce the discovery and rescue of a stranger-[Victor] Frankenstein—who tells his bizarre story to Walton, who then includes it in his letters home. Frankenstein's story contains yet another,

50. Jules Law, "Being There: Gothic Violence and Virtuality in *Frankenstein*, *Dracula*, and *Strange Days*," *ELH* 73 (2006): 987.

the confessions of the monstrous creature he has created and abandoned; and the Monster includes within his own narrative the story of the DeLaceys [sic], the family of exiles he tries pathetically and unsuccessfully to adopt as his own.⁵¹

As Newman suggests, Shelley's novel is deeply invested in examining and representing the nature and function of virtuality. The text both formally and thematically asks the reader to understand and experience it as a virtual environment. As the novel becomes a simulacrum of disembodied narrative voices, Shelley's Victor enters what Hayles refers to as "the condition of virtuality" through his privileging of information over materiality during the course of the unfolding of the text's diegesis. Newman points out in her analysis of the novel's frame structure that "each teller in the chain of narrative embeddings accepts the story he hears without question, and repeats it unchanged" with the result that readers of the novel gain no new perspective but instead hear in Walton, Victor, and the creature an eerily similar voice that works to erase the distinctions between these narrators. Newman's provocative point here is that

once a narrative has been uttered, it exists as a verbal structure with its own integrity, and can, like myth, think itself in the minds of men (and women). Being infinitely repeatable in new contexts, it has achieved autonomy; it now functions as a text, having been severed from its own origins, divested of its originating voice.⁵²

In other words, Shelley's novel structurally reinforces its thematic content, as the text's formal apparatus points toward Victor's view of information as having lost its body.

Conclusion: Mothers, Motherboards, and Shelley's Media Monster

In the context of this historical and theoretical account of Shelley's novel against the background of media and information theory (and its history), we can much more clearly understand and appreciate the reasoning behind the transformation of *Frankenstein* into hypertext online resources and simulated, immersive digital environments. At the very core of its themes and structures, *Frankenstein* begs us to allow it to mutate and transform into *FrankenMOO*. And while McLuhan has famously proposed that "the medium is the message," Shelley's work thus poses a much more complicated

51. Beth Newman, "Narratives of Seduction and the Seductions of Narrative: The Frame Structure of *Frankenstein*," *ELH* 53, no. 1 (Spring 1986): 144.

52. Newman, "Narratives of Seduction," 147.

and certainly a much more dramatic question: her *Frankenstein* asks us to consider what happens when the medium comes to life.⁵³

In a reading of Kittler's *Discourse Networks, 1800/1900* (1985), Alan Liu theorizes what he refers to as the discourse network of 2000 at length:

The distinctive signal of 2000 ... synthesizes [Kittler's discourse networks of] 1800 and 1900. In 2000, the channel is just as seemingly senseless, random, and automatic as in 1900. . . . Where the author was once presumed to be the originating transmitter of a discourse next sent for management to the editor, publisher, and so on through all the other positions in the discursive circuit, now the author is in a mediating position as just one among all those other managers looking upstream to previous originating transmitters. . . . Random and senseless those precursor transmissions may seem (in the way we often feel that overwhelming data is meaningless), yet—in a curious reversion of 1800—that content held in databases and XML now sets the very standard for an ultrastructured and ultradescribed rationality purer than any limiting instantiation of the *Ding an Sich*. And so what Kittler calls the "mother's mouth"—now the discourse of the motherboard, of the matrix itself—seems to return. Only it is alienated from the romantic-era voice of inspiration issuing from the unstructured life that Wordsworth or Blake called "childhood."⁵⁴

As Liu's work thoroughly reveals, XML, HTML, and the networked complexities of real-time operations of the internet and web-based interactions (e.g., MUDs, MOOs, etc.) constitute the discourse network of 2000. For Liu, the discourse network of the present is a strange recapitulation and transformation of what Kittler has described as the discourse network of 1800, the discursive formation of the Romantic age. According to Kittler, Romantic-era authors collectively worked to transcribe the voice of "Mother Nature" in lyric, the ode, and other forms of prose and poetry available during the late-eighteenth and early-nineteenth centuries. Kittler explains that

the discourse network of 1800 executed a new maneuver. The very Nature that the philosopher's stylus uses as a writing surface for inscribing divine thoughts is at the same time, but in direct contradiction, the source of all writing. Not God, but a tranquil, immediate

53. Marshall McLuhan, *Understanding Media: The Extensions of Man* (London: Routledge, 1964), 9.

54. Alan Liu, *Local Transcendence: Essays on Postmodern Historicism and the Database* (Chicago: University of Chicago Press, 2008), 235-36.

Nature guides the pen from the depths of the soul through clear eyes.⁵⁵

For Kittler, such literary transcriptions of the voice issuing from the "Mother's Mouth" and from "Mother Nature" (more generally) must be understood as dominant and powerful discursive technologies of this period. David Wellbery succinctly rephrases Kittler's crucial point here in his forward to *Discourse Networks, 1800/1900*: "Romanticism is the discursive production of the Mother as the source of discursive production."⁵⁶ What Kittler describes as the Romantic discursive formation is echoed in the discourse network of 2000, Liu suggests, with the crucial difference that the voice of "nature" lying behind (and ultimately beyond) the Romantic transcription systems of lyric, the ode, the novel, etc., has been transfigured into the autonomous cybernetic "voice" of the "motherboard" and of the "matrix" of the Web itself. The implication here is, of course, that if there is anything even remotely like a formation of subjectivity in that "Mother's voice" of the discourse network of 2000, it must only be understood in terms of posthumanist dispersion, dislocation, and decentralization. That is to say, *Discourse Network 2000* is a deeply virtual phenomenon.

As numerous critics and other readers of Shelley's *Frankenstein* have been careful to indicate since the 1970s, the figure of the mother (and of the "maternal" in general) is marginalized in the novel, and the complexities of gender in the novel have thus sparked much renewed feminist (and gender studies) critical and theoretical interest in Shelley's tale.⁵⁷ Anne K. Mellor has gone as far as to suggest that the novel is, at its heart, a parable concerning the dangers of a man making a baby in the absence of a woman.⁵⁸ The novel clearly shows that the impetus for Victor's desire to discover "the cause of generation and life" (and the resultant experiment with the creature) issues from his wishes to bring his own dead mother back to life. Of

55. Friedrich A. Kittler, *Discourse Networks, 1800/1900*, trans. Michael Metteer and Chris Cullens (Stanford: Stanford University Press, 1985), 26, 64.

56. David E. Wellbery, forward to *Discourse Networks, 1800/1900*, by Friedrich A. Kittler, trans. Michael Metteer and Chris Cullens (Stanford: Stanford University Press, 1985), xxiii.

57. See especially Ellen Moers, "Female Gothic," in *The Endurance of Frankenstein: Essays on Mary Shelley's Novel*, eds. George Levine and U. C. Knoepfelmacher (Berkeley: University of California Press, 1979); Marc A. Rubenstein, "'My Accursed Origin': The Search for the Mother in *Frankenstein*," *SiR* 15 (Spring 1976): 165-94; Mary Poovey, "My Hideous Progeny: Mary Shelley and the Feminization of Romanticism," *PMLA* 95, no. 3 (May 1980): 332-47; Barbara Johnson, "My Monster/My Self," *Diacritics* 12, no. 2 (Summer 1982): 2-10; Mary Jacobus, "Is There a Woman in This Text?," *New Literary History* 14, no. 1 (Autumn 1982): 17-41; *The Other Mary Shelley: Beyond Frankenstein*, eds. Audrey A. Fisch, Anne K. Mellor, and Esther H. Schor (Oxford: Oxford University Press, 1993).

58. See Anne K. Mellor, "The Female in *Frankenstein*," in *Romanticism and Feminism*, ed. Anne K. Mellor (Bloomington: Indiana University Press, 1988), 220-32.

course, Victor fails in this project, Shelley thus apparently indicating that the mother/the mother's voice may only be virtually present in the novel in her/its eerie absence. Initially, then, it might appear that Victor's failed parthenogenesis turns the novel into a cautionary tale about the rejection of the materialist cause in search (and in favor) of the virtual. Indeed, Marilyn Butler, for example, has provocatively argued that Mary Shelley should be classed among the materialists, noting that William Lawrence, Percy Shelley's personal physician, had "sketched out" in early 1816 a "materialist case against spiritualized vitalism."⁵⁹ However, as we have seen, *Frankenstein* ultimately rejects materialist philosophy too in its embrace of virtuality even in its very narrative structure, and only in so doing does Shelley's novel become a richly complicated media/information system serving as an apparently inexhaustible source not only for literary criticism and theory but also for new media and contemporary digital humanities initiatives. As *FrankenMOO* and the Romantic Circles Electronic Edition of *Frankenstein* amply demonstrate, the drive toward virtuality present both formally and conceptually in Shelley's novel has proven to be incredibly *generative*. In these ways and for these reasons, *Frankenstein* stands characteristically outside of Kittler's discourse networks of both 1800 and 1900. With its autonomous qualities, its obsessions with disembodiment, and especially its focus on virtuality in its impulses, themes, structures, and preoccupations, Shelley's *Frankenstein* anticipates—indeed, it is the Romantic precursor for—the cybernetic discursive formation and matrix of our own historical moment—the monstrous *Discourse Network* 2000.

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59. Butler, introduction to *Frankenstein*, xv–xxi.

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