

Frankenstein and Scientific Revelation

Frankenstein and the Problem of Modern Science (Part 2 of 3)

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Continued from Part One: An Introduction

1 In Parts Two and Three of our analysis of the Frankenstein myth, our task will be a literary analysis of the source-text of its core story: Mary Shelley's *Frankenstein* (1818). While putting to work the idea of originary science we formulated in Part One, the remainder of this tripartite investigation will attempt to explain the imaginative power and prescience of Shelley's achievement, taking positions amidst the jostling crowd of commentators on the text, positions informed by generative anthropology. Part Three, to appear in a later issue of *Anthropoetics*, will focus on the tragic life and non-career of the Monster, generally considered the most readable part of the novel, while qualifying the "tragic" attribution by resisting the fashion of casting the Monster as a victim whose side we must wholly take for political reasons. Our focus in Part Two will be Victor Frankenstein, his story mostly up until the monster is made: his education, his unique discovery, his animation of the Creature. Our goal is to restore the figurality of the mad scientist to Victor in the context of the tension between anthropology and cosmology, and that between religious humility and scientific knowledge, as these may be formulated anew by originary thinking. After describing the interpretive approach to be taken, three sections of textual analysis will follow. The first argues that Shelley's representation of Frankenstein's education legitimates our casting him anew as a scientist playing God. In the second, my thesis is that the problem of firstness in atheistic cosmological discovery emerges in Victor's obviously mock-Pauline, simultaneously humble and imperious, account of his discovering the "secret of life." In the third section, our focus is Mary Shelley's intuition of the analogy between the event structure of religious revelation and that of scientific discovery. The temptation to turn Frankenstein into a scapegoat is to be resisted; we should instead recognize Mary Shelley's insight into mad science as the extreme perversion of originary science. The mad scientist performs the representation of the cosmological object artificially cut off from human mediation, in the mode of a maximal desacralization and a minimal exchangeability—the very

opposite of minimal or originary science. Meanwhile, there can be no utopian return to originary science. We should concede the goodness of that *desire to know the object* legitimated by modern science and by freedom of exchange in market society.

Two Directions in Approaching the Book and Its Author

2 Witness the fame of this one book *Frankenstein; or, the Modern Prometheus* (1818).⁽¹⁾ As a result of its publication, Mary Shelley was never quite recognized as her own woman: she never got out from under the umbrella hovering over her head that identified her as “the author of *Frankenstein*,” nor did she manage to escape a second perpetually hovering umbrella that identified her to the British public as the mistress (then second wife) of Percy Bysshe Shelley. Percy Shelley, scholars agree, provided the real-life model for the fictional Victor Frankenstein (Williams 181; Small 100-102, 112, 120). Apart from his putting on display his vaulting ambition, provoking atheism,⁽²⁾ and shoddy treatment of the strangely loyal Mary, he also produced some great English romantic poetry, which Mary edited painstakingly over a long period of years as his widow (Williams 159-80). There is not, to her credit, much evidence that Mary Shelley deeply resented either of the umbrellas (although her husband’s spousal waywardness tried her patience to its outer limits.) Any “poor Mary” sympathizers can take satisfaction in the fact that the one smash success of the great poet’s wife came to overshadow anything written by the critically revered husband. Everybody knows who Frankenstein is, but *Alastor*? *Epipsychidion*? *Queen Mab*? From the novel’s inception, there has been an uninterrupted Frankenstein industry. London’s first theatrical version went onstage within a few years of the novel’s appearance; the history of *Frankenstein* scripts and productions spans the nineteenth century.⁽³⁾ The twentieth century abounds with Frankenstein movies, comic books, imitations and spin-offs. Over the last two decades, in keeping with the tendency to “open up” the canon of English literature and in response to the oversized Frankenstein industry, specialists have created a *Mary Shelley* industry. Well-edited reprints of her post-*Frankenstein* novels have been made available as affordable paperbacks; Mary Shelley scholars have rescued her from entrapment under the two umbrellas (“she wrote that little Gothic number”; “she edited her husband’s verse”). This revisionist scholarship argues for the cultural value of the entire oeuvre of Mary Shelley, including her travel writing, correspondence, shorter tales, and miscellaneous cultural criticism (Schor 2003). Our approach is old-fashioned to the extent that it celebrates only her achievement as the author of *Frankenstein; or, the Modern Prometheus*.

3 The collective decision to let Mary Shelley’s novel pass as significant thanks to the verdict of history (to which I consented in Part One of this study) must be qualified: significance as myth is not equivalent to perfection as artwork. *Frankenstein*’s literary value may be questioned on the basis of an observation of a certain vulgarity on its textual surface, a vulgarity that good taste might find taxing, if not exasperating. It has established itself neither as perfectly popular (horror fans are a minority) nor as perfectly high art (that

insinuation of vulgarity). Judged as an esthetic object with respect to the pleasures of meditation on its textuality rather than the satisfactions of its most graphic episodes, Mary Shelley's famous text must be described as flawed. *Frankenstein* lacks the compact density and restrained maturity of the representative texts of the high tradition of the English novel, which themselves owe something essential to Gothic forebears, as Joseph Weisenfarth shows in *Gothic Manners and the Classic English Novel* (1985). If we examine *Frankenstein* alongside Emily Brontë's *Wuthering Heights* (1847), George Eliot's *Silas Marner* (1860), or Charles Dickens's *Great Expectations* (1861), its awkwardness, indiscipline, and excess are exposed. Mary Shelley's neo-gothic prose style had no influence on later English fiction. Consider, by way of an invidious but revealing contrast, the mimetic impact of the style of Jane Austen. Keeping our focus on *Frankenstein* as the source of a modern myth, we will continue to seek the significance of the text in the territory marked out by its story as opposed to its discourse. We approach it more as a work that opens up macrohistorical anthropological questions about the power of natural science and the resentment of modern science than as a poetic enigma closed in upon itself with the opacity of the microhistorical.

4 But we must take a position in the midst of the tremendous mass or mess of scholarship and commentary on the text. In a searching, judicious monograph on the novel, David Ketterer intimates that there are two basic directions one can take in approaching the text of *Frankenstein*.

But *Frankenstein* is patently open-ended. Whatever resolution may be projected lies beyond the bounds of that fictional world. The final image of a figure "lost in darkness and distance" is of a figure engulfed by the unknown. And such a figure dramatizes the reader's predicament. Unlike [Percy Bysshe] Shelley, Mary [Shelley] has no philosophical answers. What she presents in *Frankenstein*, at the cost of a certain narrative incoherence, is a spectrum of possibilities . . . a philosophical appreciation of the sliding relationships between the Self and the Other. (104). (4) The "open-ended" quality of *Frankenstein*, we agree with Ketterer, cannot be denied; it would be pure vanity to announce (like Victor) one's discovery of the one key to unlock the mysteries and dissolve the paradoxes of the text. There are ways in which we simply cannot know Mary Shelley or Victor Frankenstein or the Monster; blackouts, blank spaces, gaps, dead ends make it impossible to answer certain fundamental questions about their relationships definitively. Adding responsively to Ketterer, I submit that the absence from the text of "philosophical answers" and the compensating presence of a "philosophical appreciation" might be better framed in the context of a struggle between anthropological or religious intuition on the one hand (that which Mary Shelley appreciates); and dogmatic revolutionary atheism on the other (that which Percy Shelley affirms as "answers"). The recognition that a certain spirit of religious humility pervading *Frankenstein* helps explain its enduring appeal does not demean Mary Shelley's achievement. Ketterer's allusion to a "spectrum of possibilities" and his image of "sliding relationships" are useful to us even more in helping us to take a critical position on the crowded stock market floor of commentary on the novel. It is now a commonplace to

accuse the mad-scientist interpretation of *Frankenstein* of being a commonplace (e.g., Kincaid 33). But my contention is that the power of the mad scientist myth has not yet been sufficiently explained, at least not sufficiently in light of the anthropological idea of God entailed by the originary hypothesis. The elucidation of an esthetic work that reveals an enduring moral intuition does not condemn us to mere moralizing, nor need such an elucidation, when given its anthropological basis, have recourse to moralistic judgments. My approach will be a somewhat unfashionable *literalizing* approach, different from the psychoanalytic *allegorizing* approaches that have dominated interpretation of the text. This literalizing approach will paradoxically breathe new life into the God-human “allegory” by situating it in the context of a minimal hypothesis of human origin, that, as we saw in Part One, itself illuminates the ineradicable tension between the verifiable natural science humans do and the transcendent religious beliefs they persistently hold.(5)

5 Let me explain this distinction between allegorizing and literalizing. If the studious iconoclastic reader must be split, to lift a phrase from Jacques Derrida, between “the two dimensions of the letter, allegory and literality,”(6) then we might say that such a reader has two directions to take depending on which end of the spectrum the reader slides toward: an allegorically compelled or a literalistically attentive reading of the surface of Shelley’s text. Let us grant the assumption that the relationship between Victor and the Monster, creator and Creature, human and meta-human, is the central agon in the story. The allegorizing direction, practiced to dazzling effect by critics of the psychoanalytic variety, privileges the *doppelgänger* myth, the myth of the double, as the structural bedrock of the story (see Ketterer 56-65). It results in a sliding toward the “Self” inasmuch as it aims to minimize the differences between Victor and his Creature, seeing them as two halves of a psychic unity. It assumes the appropriateness of classifying the text as a novel-romance in Northrop Frye’s scheme, the *romance* as substantive being granted priority over any adjectival novelty of content (including the novelty of Victor as scientist). In this approach, the text is deciphered as the transcription of an apocalyptic dream of one mind rather than analyzed as a journalizing report of experiences grasped intersubjectively by corroborating narrators, Mary Shelley included. One consequence of the *doppelgänger* approach is that the text will not merit classification as a founding classic of the new genre of Science Fiction. It belongs in the territory of Gothic romance instead.(7) As the troubled account of one big bad dream, the allegorized text presents a narrative the content of which is an evil *unreality*: its content is taken to be “unreal” in that readers need never feel genuinely threatened that it will be realized in their external world.

6 Correlative to the lack in readers of any feeling of genuine threat, this demystifying approach tends toward not privileging the scientist role of Victor but rather dismissing his science as pseudo-science. It resists connecting Victor to the context of the experimental science of the eighteenth century. It attempts, nevertheless, to impose reason on the irrationalism of the text: it presents hypotheses about the origins of the extreme deviation from normal psychological development represented by Victor Frankenstein. These

hypotheses aim to specify the origins of the defective interactions between Victor and the family he neglects, the Creature he abandons, the fiancée to whose erotic attractions he remains indifferent, and the public world with which he fails to engage in productive economic exchange. The origins of the defective relationships may be located “inside” the novel in the psychological dynamics of the fictional Frankenstein family, “outside” the novel in Mary Shelley’s family dynamics, or between the two realms in their interplay. Meanwhile, the approach casts the Monster as less an autonomous entity than a supplementary projection of Victor’s being. At the extreme, it may be suggested that the fictional action is something that Robert Walton, the outermost storyteller in the three-ringed structure of embedded narratives, has literally dreamed or dreamed up. Ketterer hints that one may wonder whether Walton might not have invented the epistolary narrative as an excuse for returning home to his boring sister Margaret with his tail (tale) between his legs, having failed to achieve his dream of being the first man to touch the North Pole (103). In any case, the Monster is considered less an object made partly by modern science than the psychic result of some familial process or societal defect to which Victor Frankenstein’s pursuit of “science” is more or less epiphenomenal.

7 Paul Sherwin has accurately described the way this tendency discounts the wider social world represented in the novel, specifically in terms of the damage it does to our appreciation of the Monster as part, or rather (ironically) one condemned never to be part, of the external sphere of the not-Victor.

Of course, given the sophisticated rhetorical techniques of the psychoanalytic arsenal, there is nothing to prevent critics from remaking the Creature in whatever image they wish, from transforming any presence into an absence or any absence into a presence as they see fit. Critics can thereby preserve the coherence of a reading, but in so doing they sacrifice too much. For the Creature’s story is something finer than just another version of, or a sentimental recoil from, Frankenstein’s, and the Creature himself is *Frankenstein’s* great, or original turn on tradition, a disturbingly uncanny literal figuration that ought to rouse the critical faculties to act. (889)(8) We agree with Sherwin that the Monster constitutes a paradoxical “literal figuration” and cuts an “original turn on tradition,” standing forth as striking new content. However, the allegorizing approach tends to put scenes in the novel under interpretive pressure so as to yield significations attached to the context of the authorial-biographical “Mary Shelley”-attached to figures on the plane of her microhistorical relationships with Percy Shelley, her radical philosopher father William Godwin (himself a political novelist), her pioneering feminist mother Mary Wollstonecraft, or even her early-dead infant child. This network of relationships certainly offers important fascinations, especially as part of the history of English romantic writing. But the *doppelgänger* premise usually takes us toward some purported discovery about the exemplary victimization of Mary Shelley in her particular time and place; then by way of analogies made with that situated fact, the text is promoted as culturally significant to readers situated later in human history who are called to share in the resentment of her

proposed victimization (or the victimization of a group with whom she harbored or failed to harbor sympathies). Our literalizing approach claims, by contrast, that to explain the wider impact of the core story in *Frankenstein* as a source of modern myth, we need a model that judiciously reaches beyond the biographical and the authorial domains, to which the psychoanalytic model, trapped inside poor Mary's mind or inside Victor's as an analogue of hers, must keep returning us (no matter how elegant the intertextual forays).⁽⁹⁾ The *doppelgänger* approach tends to produce readings of the sort that Paisley Livingston calls "megaphone criticism": the job of the critic is to speak the "message" of the text more loud and clear than the text itself speaks it (*Literary Knowledge* 233-42). In the arena of this critical practice, the message of the text will be something about the evils of the bourgeois family, capitalist patriarchy, the British class system, masculinist science, or some combination of these or like malicious institutions. A stunning diversity of indictments is made possible. *Frankenstein* is notorious for seeming able to mean almost anything, depending on the particular inflection one's subcultural resentment happens to take and the ideological scalpel one has sharpened. But our approach inclines toward the belief that, to explain the wider impact of the core story of *Frankenstein*, we need a model of inquiry that casts a less immediately politicizing net.

8 Our approach will be to read the events and existents, the contents of the fictional world of *Frankenstein* as "literally" as possible, meaning primarily to privilege resolutely the "literal" otherness of the Monster made possible by the mad scientist playing God. I suggest that the best respect we can pay Mary Shelley's imagination is to resist reducing the Monster she created to a symptom of personal experiences, either hers or Victor's. While curiously keeping an eye on the microhistorical scholarship but refusing the compulsion to submit to its politicizing invidiousness, I will attempt to articulate instead the culturally universal implications of the Monster and mad scientist as mythic figures. It is certainly paradoxical that a literalizing approach is required to get at the specificity of the myth; it is a testimony to the domination of psychoanalytic allegory in literary interpretation in recent decades. My analysis will struggle to situate its hypotheses on the borderline between the anthropological and the cosmological, rather than that between the psychological self and its (internalized) others. Without denying the presence in the text of characterological absurdities, deficiencies, inconsistencies, and pathologies, I contend for the validity of proceeding as if these may be deciphered as figures of an objectively disordered social world. The disorder in that social world is something which has modern experimental science sticking to it as context. Modern science neither begins with nor belongs to any one person.

9 For us, it is appropriate to classify the text as a romance-novel in Northrop Frye's scheme, with the *novel* half of the phrase granted the substantive weight. We uphold the opinion of the Monster-character himself, who insists that there is a painful separate reality in his *ugliness* as concrete fact in his fictional world. We proceed on the assumption that the *text contains the dreams* of the mad scientist character, rather than proceeding enamored with

the mystery of such dreams themselves being *identical with the text-as-container*. We isolate the dream of the mad scientist as a relatively autonomous strand of signifiers. The mad scientist may be held responsible because it is *not* all going on in his head. To believe otherwise is to grant him moral immunity despite the consequences of his fantasy.

10 For us, the status that several critics wish to accord *Frankenstein* as a founding work of Science Fiction (see Clayton, Marcus, Stableford, Vasbinder, Ziolkowski) is a status appropriately bestowed. An assumption of the determinative force of the abnormality of Victor Frankenstein's psyche or family background downplays his science: the mad scientist is mad, it is implied, for all sorts of personal reasons *not* having to do primarily with modern scientific practice. But we confront the reader with the problem of Frankenstein's scientist role by foregrounding his scientific failure, precisely as it is incarnated in the Creature's ugliness. The Creature is used in an experiment; he *is* an experiment. For us, Victor Frankenstein as scientific actor threatens things that might happen outside the story in our real world, in a manner analogous to the way the science in the story causes the peremptory killing of bystanders. The problem of Frankenstein himself is taken less as one of an individual aberrant fantasy and more as a problem of the general possibilities opened up by modern science for relations between humanity and its Other, a problem of moral obligation that confronts us regardless of whether the model by which we explain that Other is primarily cosmological or theological.⁽¹⁰⁾ The scientific method, experimental science, continues apart from Victor; this peculiar Victor is meaningful, ultimately, not in himself but only as a scientist. Anyone in like circumstances is likewise free to experiment or not. Many psychoanalyzable childhoods might lead to similar situations. The naïve mad scientist reading may not be so naïve after all, not so common a place to stake out.

Victor Frankenstein as Modern Scientist, as Mad Scientist

¹¹ Perhaps surprisingly, there is debate in the academic criticism on Mary Shelley's text about whether it is revealing, or the extent to which it is appropriate, to describe Victor Frankenstein as a scientist.⁽¹¹⁾ My first response is that it seems to me the attribution is by no means an extravagant one. A useful contribution to *Frankenstein* scholarship is the concise but informative volume by Samuel Holmes Vasbinder, *Scientific Attitudes in Mary Shelley's Frankenstein* (1984). Vasbinder demonstrates that to categorize Victor Frankenstein as a modern scientist dovetails smoothly with a great deal of textual allusion and information: "criticism has generally concentrated on the moral fable . . . and has ignored the problem of science as a side issue. . . . [But] *Frankenstein* must be evaluated in an entirely new light as an early work of this genre [of speculative fiction]" (83). The book merits a quick summarizing. Pricked by James Rieger's dismissal of the science in Mary Shelley's novel as "souped-up alchemy," Vasbinder proves that Mary Shelley herself knew about contemporary developments in electricity, chemistry, anatomical dissection, the manufacture of automata, the study of feral children, and other fields. He details her acquaintance with proto-evolutionary speculation by natural philosophers such as Erasmus

Darwin about the mysterious bridge between inanimate and animate matter. He argues that to place Victor's experiment under the sign of "alchemy" is to misread the facts of the text that show Victor rejecting alchemical procedures for observation, inductive reasoning, and repeatable testing as it had been practiced and institutionalized in the marketplace of ideas by scores of British scientists throughout the eighteenth century.⁽¹²⁾ At least inasmuch as modern science is experimental science,⁽¹³⁾ Victor Frankenstein fits the description of a modern scientist.

12 A second point is the intriguing fact that the tiny minority of critics who propose qualifications to the moral condemnation of Victor Frankenstein also happen to privilege his role as scientist. They form a significant unorthodox party in the mass of interpreters who wish to send Victor to the guillotine straightaway for his unmitigated villainy. Certain edges in Victor's career become sharply visible if we concede that Mary Shelley may have been imagining a promising young scientist who, somewhat tragically, loses his integrity when he carries to its gruesome conclusion a very trying but new and, in some respects, courageously conceived, experiment. That is the basic shape of Vasbinder's qualified defense of Victor, which resembles that of Jane Goodall's argument in a very different scholarly investigation of Victor as the victim of a Calvinist reprobate's conscience. Theodore Ziolkowski makes a similar case that Victor's personality degenerates during the ardors of the experimental process and breaks irreparably at the moment of technological success. The intuition shared by such atypical "defenses" of Victor grasps the significance of the radical discontinuity between the scientist's experience before the decisive experiment and his experience after it: that is, they grasp the significance of the irreversibility of what I will be designating as "scientific revelation." In their willingness to suspend moral judgment of Frankenstein by giving due weight to the specificity of his ambition as *scientific*, rather than as a symptom of something else, they open up the possibility that a minimal psychological explanation of Victor's moral perversity may be that he worked himself into something like a nervous breakdown when creating the Monster. The real question may be why postmodern criticism seems tendentiously opposed to finding such a proposal valuable, even for exploratory purposes. Frankenstein's goal is knowledge of *the cosmological object alone*. To that goal, he sacrifices all other interests with a single-mindedness that does *not* need to be explained exclusively in terms of Oedipal, familial, neurotic or "bourgeois" complexes. The madness of the mad scientist is his idolatry of science at the expense of all other forms of human experience (the sacred, the esthetic, the economic, the erotic). It is nothing more than that idolatry; it is terrifying enough in its being simply that idolatry.

13 I must specify what is textually at stake in the decision to take the latter approach, at stake in terms of separateness between the scientist and his universe-disturbing "creation." A few non-trivial concessions must be made. It is certainly possible for the question of the "literal" reality of the Monster to become a little like the question of the reality of the ghost in Shakespeare's *Hamlet*. Just as the reality of the ghost of the victim father in *Hamlet* is questionable, just as Prince Hamlet's will to believe in its reality is unquestionably

nourished by his resentment of Claudius-in-the-usurped-center, so one may make the argument that the Monster partakes of a dubious ontological status.⁽¹⁴⁾ As the *doppelgänger* interpreters love to point out, we might wonder whether Victor himself perhaps murdered Ernest and Justine, Elizabeth and Clerval; we might wonder whether the murders are performed as the working out of a neurotic resentment and the monster is a kind of fantastic externalization or hallucination by means of which Victor, stuffed with hatred of his benighted family for various unowned reasons, excuses himself. None of the violence done to his family (so implies this notion) has its genetic cause in the desire to do science in itself. The pseudo-public science is an incidental means to much more profound private or perverse ends. It is pointed out that the existence of the Monster as experimental result is itself barely verified according to the demands of correspondence truth: only Walton's end-of-text account of his face-to-face meeting with the Creature corroborates Victor's tale. The skeptic argues that Walton was seduced by Victor into some form of hallucinatory collusion. The Monster seems not to exist apart from Victor, just as Victor seems not to exist apart from the Monster. The observation is frequently made that Victor Frankenstein cannot rid himself of the Monster in the way that an obsessional paranoid cannot rid himself of the object of his paranoid obsession. The Monster appears like a voyeuristic psychic jack-in-the-box at all the most embarrassing, humiliating moments in Victor's idiotically evasive and procrastinating itinerary. I concede that Mary Shelley leads us to notice their existential inseparability with such outrageous coincidences. I concede that in his envy and hatred of Frankenstein, the Monster sado-masochistically prolongs his own misery.⁽¹⁵⁾

14 The *doppelgänger* reading makes it possible even for the Creature's ugliness to be read as an externalized aspect of Victor's internal life.⁽¹⁶⁾ Such a reading at its most morally ironic makes that ugliness into a spurious legitimation for what Francois Flahaut, in a provoking volume of anti-monotheistic philosophical anthropology that takes *Frankenstein* as its springboard, calls "the omnipotence of the solitary." Flahaut's formulation is representative of the *doppelgänger* approach in the way it ironically ends up accusing the Monster rather than Frankenstein of "playing God": omnipotence is an attribute of the imperviously Divine. It is true that the peculiar form of centrality the Monster claims does depend on the cruelty of his circumstances, circumstances to which Victor cannot claim to be subject; if suffering alone is omnipotent centrality, then the Monster beats Victor in the competition. But Flahaut's ironization proceeds, I would submit, only at the price of weakening our grasp of the text's dramatization of a problem that follows from the rise of modern atheistic science.

15 The mythic content of Mary Shelley's text can be isolated only by reading against the formal seductions that invite us to see it all as a nightmare contained by psychic allegory. We are free to sacrifice the difference between Victor and the Creature by insisting on their fundamental unity as speakers of victimary rhetoric, but we do so at the expense of our grasp of Victor as a mad scientist. My proposal is only that the anthropological intuition of

the text inheres at least as much in the mythic content of the story as it does in its exemplariness as a specimen of romantic form.(17) None of the concessions I made above does away with the brute fact of the Creature's *ugliness*. To the Monster himself "inside" the world of Shelley's text, his ugliness as a unique, concrete source of suffering is a circumstance imposed upon him without his consent. It is not coincidental that a set of valuable scholarly interpretations that focus on the Creature's ugliness tend *not* to follow the *doppelganger* approach exclusively (Bowerbank; Dutoit; Gigante; Juengel). Whatever the Monster does *with* that ugliness or *despite* that ugliness, there is a cost in clarity when one dissolves the difference between the Monster-made-ugly and the maker-who-makes-him-ugly, however intimate their interactions.(18)

16 Certainly, as modern people we all "play God" in the sense of aspiring to personhood, taking the originary Person as our model for the power to say "no" to others in the minimal act of freedom, our model for the power to exercise willful intentions and perform creative acts, to withdraw ourselves from the scene and otherwise produce exchangeable signs and things. It does not follow from the generic universalization of "playing God" in modernity, however, that all forms of personhood are equally praiseworthy or appropriate (as imitations of the divine originary Person). That is why it makes moral sense to respect the difference between the Monster and the mad scientist. Certainly, the modern romantic self is a descendant both of the originary scientist (whose role we outlined in Part One of this study) and of the usurpationist big man in nascent hierarchical culture, both of whom in their own ways imitated the God of the center, but *without threatening the stability of human-Divine difference*. The originary scientist presented no threat because, on the contrary, as we established in Part One, the first risk-takers to bring substitute objects to the ritual scene must have been bound by the strictest necessity to *minimize* the difference between the original sacred object and the secondary substituted object. The most morally egalitarian science, that of primitive culture, is the least ethically unsettling way to get object knowledge; its bears little resemblance to modern science and its practical results are (from our point of view) rather unspectacular. Nor were the Pharaohs and kings of the archaic empires who declared themselves demi-gods and gods presenting a threat to the community: on the contrary, in the context of economic surplus, they took the risky initiative of *stabilizing* hierarchical society with their self-deifying declarations.(19) Who plays God in modern market society? Not all modern science is destabilizing in the way that mad science is, but all mad science is modern science because it presupposes the self-centralizing romantic self in opposition to the market itself. The polar opposition between originary science and mad science becomes an historical possibility only in the context of the revelations of the romantic esthetic.(20) The classical Prometheus served humankind. The neoclassical esthetic has divine authority equivocally "elect" its privileged usurpers and sacrificial victims: Faust elects Mephistopheles as Mephistopheles chooses Faust. By contrast, Frankenstein is working willfully on his own. The romantic modern Victor Frankenstein paradoxically detaches himself from all models of immaterial transcendence in the very act of severing himself from any "responsibility" of a Divine type, even from any

moral obligation to account rationally for the results of his experimental decisions. His freedom to play God, he uses to destroy rather than create human community. In this model of romantic madness, "playing God," an anthropologically meaningful accusation, suggests a human being carrying on as if the human could *be* "God," that is, as if the concept of God were empty and the usurpation of the sacred center a risk-free operation. It might be useful to rethink revolutionary atheism as a kind of idiotic rejection of risk.(21) The relevant paradox in the ancient wisdom of the prohibition against playing God may be formulated as that of *the imitation of the Inimitable*: God must be imitated in the minimal way of the originary scientist if human culture is to begin, but God neither can nor should be imitated in the maximal way of the mad scientist if culture is to survive. The necessary imitation of God must be our constantly renewed opening to freedom, but disaster follows if the human being aims to annihilate the Inimitable Divine at our shared origin.

17 The problem of modern science is that it makes mad science a real possibility. It does so because modern science possesses the unique historical power to get a hold of the practical means to understand the cosmological object and make things out of it, in such a way that a threatened result is the maximal desacralization of "Nature" and the minimal exchangeability of its consumed, handled fragments in the sphere of economic exchange. Modern science makes the aim of complete God-likeness, where God is misconceived as the great cosmological Puppeteer pulling the string of the Laws of Nature,(22) appear both achievable and desirable to certain human aspirants. Modern science is the form of knowledge that threatens to destroy culture by blocking the possibility of voluntary exchange. It brings things to the community that the community in its religious and moral solidarity violently believes it does not want and vociferously claims it does not need (and in these beliefs and claims, the "community" will often eventually change its mind). But mad science is a subculture in modern science because it *dismisses the sense of threat* as mere religious stupidity. Mad science proceeds as if knowledge of the cosmological object alone counts, as if anthropological truth (religious, esthetic, and economic considerations) are epiphenomenal to the knowability of the cosmological "facts" or "Laws" or "necessities." Mad science is a form of epistemological tyranny in which cosmology wishes to enslave anthropology.(23) The horror represented by Victor Frankenstein as mad scientist is the horror of such a petty but spectacularly malign tyrant.

18 It is not enough to observe that Victor and the Monster are both "romantic." It is one thing to observe the truth that all modern selves hypocritically seek victimary status (claiming to be victims of the centerless society that refuses to grant their value from the outset) even as they prepare themselves inadvertently by means of such self-centralizing egotism for life and career in market society.(24) But it is quite a different thing to argue that all modern selves enter the market in "objective" terms *equally free to choose* such victimary status. Mary Shelley's myth presents the morally stressful case in which the victim is born, not made; Frankenstein's Monster is a born, made victim. Yes, the Monster himself "plays God" in the way any modern agent must play God, in the sense that as romantic

victim he enjoys the privilege of being even more a victim than Victor, his victimary rhetoric reaching wishing-well depths that make Victor's speechifying sound wading-pool shallow by comparison. But not all victimization is equally a result of *voluntary* self-centralization. The Creature is *unfree* in a way that Victor is not: "Freedom must rather be understood as the possibility of realizing one's desire within the social structure—it being kept in mind that desire is always desire for *significance*" (EC 156). His inalterable ugliness excludes him from participating in the production of *value*. The Monster is the paradoxical incarnation of a speaking subject who can never become human flesh, an anti-Christian sacrifice whose very being is predicated on an absolutely minimal participation in the human community as one who is free to exchange only the threat of destroying that community with the fearful flight of its representatives.(25) That otherness of the Monster is the point of the ontological obstacle to assimilation with the human imposed by his ugliness. Thus, in proportion as we de-literalize the Monster's otherness from Victor, we discount the significance of Victor as the scientist who fails in his attempt to *make the human*: the monster is not human. The madness of Frankenstein's science is that it does *nothing* to promote the exchangeability of things: the scandal of the Monster is the impossibility of his ever participating in human society, the impossibility even of his saying a meaningful "no" to it.(26) The need of the human sign to complete itself in the appetitive satisfaction of the exchange of things connects to the meaning of the Monster's suffering: he is free to speak of his desire to belong to the human community, but damned for all time *only* to speak of it—apart from destroying a few victims along the way.

19 Let us return to the formulation of originary science that we proposed in Part One of this study: originary science is *the performance of the sign in the mode of a minimal desacralization and a maximal exchangeability*. Frankenstein inverts (and perverts) this formula to almost amoral perfection: he performs the sign in the mode of a *maximal desacralization* and a *minimal exchangeability*. The monster can only exchange words, not things. The Monster *incarnates* the sign as signification of an object (himself the object) bizarrely divorced from any possibility of creating economic value. He incarnates meaning paradoxically deprived of human purpose; he incarnates Being-artificial human being-paradoxically deprived of any possibility of human centrality. The science of the mad scientist, therefore, spectacularly desacralizes everything it can—everything except the value of scientific knowledge for its own sake, knowledge aspiring to pure representation without roots in sacred, esthetic, economic or erotic experience. Frankenstein desacralizes the bodies of the dead people and animals that he uses as raw material for the piecing-together of the body of the Creature. Frankenstein casts aside social ties, not paying the debts of honor he owes his family and friends and fellow citizens, others vulnerable to his work. Frankenstein despises all the "supernatural" agencies dear to some forms of religious faith: the humility that the naïve majority feels toward either a Creator of the cosmos, or the Cosmos itself, as something external to the human, is a humility Frankenstein makes it a fine art never to feel. Mad science is knowledge of the cosmos detached from and forgetful of the moment in which the peace-oriented gesture of originary science was performed. Let

us recall the risk of danger from the community that obliged the ordinary scientist to substitute one sacred object for another with great caution, in the fear of not satisfying the community's expectation that the difference between one sacred image and the next be kept *minimal*. By contrast, mad science is knowledge of the cosmological object severed from any obligation to imitate the scenic moment of the substitution of one sacred thing for another. Those who perform scientific representation of the object ought to situate themselves on the *human* scene of representation where the cosmological object is never *merely* cosmological; otherwise, science imitates the (moral) indifference of the Inimitable, pretending not to belong to human community in the way only its transcendental Other can be other to the human community. The mad scientist is the human who pretends to *be God* by evacuating the scene of representation of everything *except* "science." But there is no humanity without something sacred, something beautiful, something valuable, something erotic. Knowledge of the cosmological object alone without these is no knowledge worth having—unless, of course, one wishes to play at being, to be, God.

Alchemical Dreams, Modern Methods: the Education of Victor Frankenstein

20 Frankenstein is not by any stretch a "likable" hero; one's patience as reader is tested at almost every turn in his monologues. Few characters in the history of English fiction match him for inexhaustibility of egocentricity, which is entirely appropriate given his role as the original modern madman playing God. The reader who has gotten through the novel once is certain on re-reading that the young sailor Walton who takes the emaciated Victor on board his ice-bound Arctic ship and re-animates him (another of Shelley's ironies) is deluded in his first impressions: "all he does appears to spring solely from the interest he instinctively takes in the welfare of those who surround him" (60). Not so: Victor's professions of care for the "welfare of those who surround him" are contradicted by his recklessly self-centralizing performances everywhere.

21 And yet, in keeping with that very self-centralizing, Victor engages in some retrospective self-analysis that provides a context for his scientific pursuits, admitting at least once that the causes of his character are difficult to identify.⁽²⁷⁾ He tells Walton that his earliest memories of himself suggest an orientation toward universal de-masking: "The world was to me a secret, which I desired to discover; to her [Elizabeth] it was a vacancy, which she sought to people with imaginations of her own" (1.1.66). Interpreters frequently seize upon the former half of this antithesis in isolation, but it is most revealing when its difference from the latter half is teased out. The angelic Elizabeth is not resentful of the vacated center on the scene of representation, not resentful of the mystery of the "world" as natural object; fiction satisfies her and her imagination is pleased by the promise of esthetic experience alone, as if consumption were not a consideration. Hers is a quietly and fantastically non-sacrificial way of carrying on. In her long-suffering feminine virtue, Elizabeth embodies the sacred attitude to the object taken to its self-denying extreme: she will never compete to

appropriate the center that Victor claims for himself. Her self-effacing performance must remain excruciating to watch for anyone except the most confirmed anti-feminist.

22 By contrast, the quasi-demonic Victor cannot bear the possibility that the “world” might be to him as well a “vacancy”; any vacancy is to him a hidden occupant waiting to be pointed out, any appearance an illusory transparency masking an invisible presence. The central object of the natural “world” is a mask to be removed or torn away so as to reveal a “secret” to be possessed. Secrecy is the withholding of valuable information; Victor resents the erotic self-withholding element in the sacred central object. He resents it to such an extent that he can only imagine possessing it in the act of destroying it, or destroying it in the act of possessing it (a secret loses its value in proportion as it is shared; its value is one with its being withheld).(28) The real Elizabeth herself never becomes an object of his erotic interest: she, poor metonymic body never embraced, has no secrets to compare with those of the “world.”(29)

23 In keeping with his desire for universal de-masking, Victor describes himself as a scientist.(30) He manages to insinuate, however, that his fatal attachment to science is the result of two events for which he is not to be blamed: first, the injection of the malign influence of books of alchemy, which induced in him the desire to create living from dead matter and produce a homunculus; second, the failures of his father and adoptive sister, which failed to save him by preventing him from reading those books. That we can detect these mimetic rivalries in Victor’s account of his paradisiacal childhood gives the lie to his fantastic Margaret-Mead-like claim that their home life during his adolescence was conflict-free.(31) His childhood experience leads, he suggests, to his “fatal” obsession, that which we are now able to name his obsession with using modern science to play God.

24 The first crisis follows from the malign influence of reading material. Permitted total liberty to pursue whatever studies he likes, young Victor falls in love with the hermetic works of certain important Renaissance alchemists: Cornelius Agrippa, Paracelsus, and Albertus Magnus. Now what Victor does not himself explicitly include in his storytelling to Walton but what Mary Shelley would have known and what scholars have established as “context” is the following: these alchemists sought not only to transmute base metals into gold, but sought two other ends as well. First, they sought the famed “elixir of life” which becomes an object of scientific desire to Victor as well, who daydreams: “if I could banish disease from the human frame, and render man invulnerable to any but a violent death!” (1.1.69). It is a short distance from the elixir of life to Victor’s galvanic “secret of life.”(32) Second, the alchemists sought to usurp the powers of the monotheistic God of Biblical creation by re-making the human through scientific experiment: they sought the occult techniques whereby they could bring into concrete existence by means of chemical operations the miniature artificial human named the *homunculus*. The alchemists are Victor’s mimetic models not for the *means* but for the *end* of his experiments as modern scientist: his models for the desire to play God.(33) Mary Shelley intuits a continuity

between the occult *hubris* of the alchemists and the *hubris* that may abuse the wonderful power of experimental science. The vanity of playing God the creator remains the same, whether performed in the name of the pseudo-science of alchemy or the modern science of chemistry.

25 Victor evades responsibility by blaming his father for not warning him off these books with sufficient violence. Alphonse, one day noticing the tomes by Cornelius Agrippa, Paracelsus, and Albertus Magnus lying about the house in Geneva, labels them “sad trash” (1.1.68). He does not scold, censor, or reprimand his son; the remark is barely more than a mild evaluation, the expression of a market preference. No ritual paternal authority is exercised. But pathological resentment will sense injustice where there is no real deprivation: the old Victor betrays the fact that this tiny ripple in the stream of perfect family harmony was traumatizing to his thin-skinned young self. Victor’s argument is that he may never have ended up making the monster if only his father had “talked” to him, as they say in our time on television family drama (“Can we talk?”). Notice the implication of *blame* in the following retrospective observation made to Walton: “It is even possible, that the train of my ideas would never have received the fatal impulse that led to my ruin. But the cursory glance my father had taken of my volume by no means assured me that he was acquainted with its contents; and I continued to read with the greatest avidity” (1.1.68). Victor is asserting here nothing less than that he was justified to have believed back then that his father was lying: the “cursory glance” was interpreted as evidence that Alphonse was only *pretending* to know the “contents” of the books of alchemy (it “by no means assured” the boy of the father’s authority). The imagined lie—his father is claiming to have read a book of secrets he has not truly read—therefore, we are to understand, innocently permitted the continuation of his fantasies of becoming an alchemist. Young Victor cashes in the value of his biological father’s judgment for an extended lease on his relation with the fantastic alchemical stepfathers. Young Victor simply *cannot bear the conflict* between that fantasy and the reality of concrete paternal disapproval. This taking refuge from the real in the fantastic hints at the mad scientist’s perpetual flight away from real human exchange toward something else. Looking back, old Victor posits a vacuum of negligence to justify his supposedly unintentional usurpation of the imaginary centrality that he still, during his death-bed narration to Walton, refuses to cede.

26 The blaming of nearby Elizabeth is next. She does not escape an insinuation concerning what she *might have done* to save Victor from his fate. His secrecy was not his fault, he suggests. She should have taken an interest where she took none, just as his father should have been more explicit about whether or not he had actually read Agrippa.

. . . and although I wanted to communicate these secret stores of knowledge to my father, yet his indefinite censure of my favorite Agrippa always withheld me. I disclosed my discoveries to Elizabeth, therefore, under a promise of strict secrecy; but she did not interest herself in the subject, and I was left by her to pursue my studies alone. (1.1.68)The

“indefinite censure” of his father combines with the lack of “interest in the subject” shown by Elizabeth to create the conditions in which Victor is “left by her... alone”: the very liberty to read whatever he pleased, which only a few moments before he claimed as the hallmark of his domestic education’s perfection, is here insinuated to be a form of paternal and sibling neglect that failed to restrict him as it should have. The man who has abused the freedom he was given blames those who gave the freedom, evading responsibility for his later science.(34)

27 Even when Victor is forced by the experimental demonstrations of his father to devalue alchemy and respect modern science, he persists in his allegiance to Cornelius Agrippa and the rest by *not* performing any studies in chemistry. He would rather resent those who seem to disapprove of his belief in the dreams of the alchemist. After an incident in which Victor is fascinated by an oak tree blasted to smithereens by a random bolt of lightning, his father does one day take an active paternal role. Imitating the famous Benjamin Franklin, Alphonse Frankenstein flies a kite in a lightning storm so that the natural power of electricity can be demystified for his son, shown to be controllable rather than the unpredictable handiwork of spirits in the sky. Victor *claims* that his father’s intervention at that point overthrew once and for all the prestige of Cornelius Agrippa and company in his mind (1.2.70). But the claim is contradicted by subsequent evidence. The models for playing God the creator are the models he will never cast off. A little later, having submitted to another bit of fatherly advice with sullen reluctance, Victor attends a lecture on *modern* chemistry, the chemistry that has superseded the pseudo-science of alchemy. The old Victor fails to conceal the fact that the young Victor was a little like the classic lazy student: he reports that he came away “disgusted” from this lecture because he found it incomprehensible; but he was bound to find it incomprehensible, given that (according to his own offhand admission) he knew nothing of the subject before attending because he *missed the whole series of lectures except the final* one, the only one he attended (1.2.70). One is reminded of the student who shows up during the last week of the semester to ask what he has missed.

28 Much interpretive ink has been spilled on the dramatic antithesis between the ugly, squat, and gruff M. Krempe as opposed to the elegant, suave, and mellifluous M. Waldman, the two professors of chemistry who become Victor’s models of desire at the University of Ingolstadt, where he goes after his mother dies unexpectedly. We completely miss Mary Shelley’s wry joke if we fail to see that Victor’s antithesis has no basis in objective reality—that the *only* difference between the professors is subjective, an effect of Victor’s desire to be flattered. The two professors differ only in the degree of leeway they give to Victor’s desire to play God, not in the content of their scientific practices or beliefs. Waldman inflates the vanity that Krempe deflates. Victor introduces himself first to Krempe; when Krempe learns Victor has studied the alchemists with intensity, Krempe bluntly insults him for having wasted his time on outdated nonsense and gives him a new reading list (1.2.74-75). (One remembers how traumatized Victor was by his father’s quietly casual “sad trash” remark [1.2.68]; there is no wonder then that his recollections of Krempe, given the

latter's bluntness, are particularly venomous). But Waldman too gives Victor a new reading list; Waldman too clearly asserts that the *methods* of modern science are not assimilable to the *methods* of alchemy. Neither professor approves of alchemy; neither professor practices alchemy, neither professor will teach Victor alchemy, even though Victor still prefers alchemy to modern science.⁽³⁵⁾ Nor is the contrastive structure of the portraits the result only of a prejudice based on the professors' different manners of self-presentation, although Victor does spell out in resentful detail the ugliness of Krempe, indulging the systematic physiognomic prejudices that inform all of the novel (see the analysis of the novel's physiognomic determinism by Scott Juengel). The difference is only that whereas Krempe deflates it, Waldman flatters Victor's desire to play God by positing a *continuity of intention* between alchemy and modern chemistry: "They [the alchemists] had left to us, as an easier task, to give new names, and arrange in connected classifications, the facts which they in a great degree had been the instruments of bringing to light. The labours of men of genius, *however erroneously directed*, scarcely ever fail in ultimately turning to the solid advantage of mankind" (1.2.76-77) [emphasis added]. Under the influence of this serpentine reasoning, Victor will be more intent on proving himself a "man of genius" than intent on avoiding "erroneous direction." Waldman sacrifices the unkind truth to polite flattery: "genius" directed to falsehood rather than truth is not genius but something else. Scientific genius is not self-justifying: the objects intended by scientific representation are both tested against the cosmological evidence (the object itself) and assimilated or not by the human community's capacity for exchanging them.

29 In the decisive lecture that does irreversibly adjust Victor's attitude into one favorable to experimental science, Waldman describes modern science in rousing terms as, paradoxically, a form of almost magical control of nature, different from alchemy only in the *reliability of its methods* and in the *illusion* of its mundane quality.

"But these [modern] philosophers, whose hands seem only made to dabble in dirt, and their eyes to pour over the microscope or crucible, have indeed performed miracles. They penetrate into the recesses of nature, and shew how she works in her hiding places. They ascend into the heavens; they have discovered how the blood circulates, and the nature of the air we breathe. They have acquired new and almost unlimited powers; they can command the thunders of heaven, mimic the earthquake, and even mock the invisible world with its shadows." I departed highly pleased with the professor and his lecture, and paid him a visit the same evening. (1.2.76)

Waldman makes the connection for Victor that no model of desire has yet made: modern science can indeed give one control over the natural world; it has the goal that alchemy had, the scientist-empowering alteration of the self-withholding cosmological object. This is a revelation to Victor because it shows him that one may in fact use modern chemistry to pursue ends that may be assimilated to those of ancient alchemy. The *methods* of modern chemistry differ, but modern chemistry permits *intentions* on the scale of playing God

(finding the elixir of life, creating the humanoid *homunculus*). At the University of Ingolstadt, Victor certainly does not unlearn his infatuation with the dreams of the alchemists, but he does learn new techniques for discovering the laws of natural processes and so controlling them. That is what justifies our calling him a “modern scientist.”

Scientific Discovery, Firstness, and Dangerous Isolation

30 Narratives of the real-world history of scientific progress, especially but not only when they follow the “heroic” model, are punctuated by events that take the form of an irreversible world-changing revelation (see Rescher 64, 74; Stempel 64; Toulmin, “Construal” 101). One thinks of the hagiography of Isaac Newton’s mathematization of gravity, Einstein and his vision with the twin trains, Watson and Crick “cracking” the code of DNA. (36) Sacred religious revelation meets its modern rival in secularizing scientific revelation: God reveals the Divine Otherworldly self to the religious inquirer, but to the scientific atheist it is plain deity-devoid Nature that reveals the truth about the cosmological object, something *in* this world that reveals a truth *about* this world. The problem of modern atheistic science is that the revelations of the “object alone” of Nature must not appear to have any transcendental (divinely or humanly mediated) source. (37) The object that modern scientific discovery uncovers is itself less an object than a process, a way of signifying the object that hopes to find that the object hides no acting transcendental Other, no supernatural agent conceivable in anthropomorphic form or as human-like intentionality. For the materialist scientist—and the popular mind that takes the mythic figure of Frankenstein as frightening in his reductive materialism is not mistaken—the matter of Nature must be passive, the cosmological object must be evacuated of Divine agency, and the repeatability of the experimental discovery must be kept in the grasp of human control or human understanding. The human control is the “evidence” for the death of God and the legitimacy of the human playing God. (38) The repeatability, exchangeability, and verifiable comprehensibility of experimental findings or theoretical constructions are essential to modern science. The scientific method is *democratic* in that, unlike the necessarily localized sacred and the impossible-to-coerce esthetic, the scientific must be indifferently accessible to all those who would practice it: “Implicit in the idea of science is the notion that not only its results but its method are objectively reproducible. Science is wholly democratic; there are greater scientists and lesser ones, but no one can claim to do science in a way no one else can” (EC 89-90). In ritual culture, it is primarily Divine truth as revealed by God to humanity that has sacred value on the scene of religious exchange; in modern culture, it is mostly scientific truth as revealed by scientific practice taking hold of Nature that has exchangeable value in the marketplace of ideas and things.

31 Where God has been expelled by the threat or apparent success of triumphant scientific materialism, the atheistic scientist is vulnerable to the resentment of the still-believing majority. Modern science in its undeniable power throws into relief the fundamental modernizing difference itself, that between ritual exchange and market exchange, between

subservience to old knowledge preserved by the sacred (“familiar” truths) and pursuit of new knowledge discovered by science (“shocking” truths). Our horrified response as readers to the utter uselessness and valuelessness of Frankenstein’s invented Monster corresponds to our impossible demand that science evaluate its results before offering them for inspection or consumption, our demand that it guarantee in advance that its results be useful or beautiful.(39) For the utopian believer in the ideal purity of the ecological object, who sees most modern science as mad science (the rape of nature, the disenchantment of the planet), modern science risks too much the maximal desacralization of the object. Thus we witness the deep resentment of vaccinations, evolutionary theory, nuclear weaponry, genetic engineering, pharmacological therapy; the list is a long one. For the utopian hoper, modern science seems also to minimize peripheral exchangeability. Witness the public resentment of alleged corporate concentration of scientific expertise, public resentment of the alleged non-reciprocal amorality of science, public resentment of the figure of the imaginary amoral scientist, one not to be laughed at but rather feared.(40)

32 Because God seems to have gone away, the scientist untroubled by God’s exit attracts resentment. In modern market society, the scientist who makes a valuable discovery finds himself in that uncomfortable *first place* where he has separated himself from other members of the human community as the usurper of the sacred center. The scientific discoverer is the recipient of cosmological truth, in a world where God has abandoned the cosmos to let it be merely a passive set of indifferently self-revealing structures of Nature. What understandably follows in the still-believing larger society is fear and resentment of the scientific usurper. There is organized suspicion of professional expertise; there are public demands for codes of professional ethics to mediate between scientific experts and the public. These historical and social facts prove the “objective” authority of science more unequivocally than the most sophisticated epistemological arguments about the metaphysics of absolute truth (see, for example, Morgenthau).

33 What can the scientist do for self-protection? By technologizing an item of cosmological truth, converting it into a product, into consumable goods, the scientific discoverer can contribute to the social order that either contains or expels him. The differential information revealed in or by the god-less cosmos may then be absorbed and circulated as potential goodness and truth that has “been there” all along “in Nature,” for the information once revealed becomes, if valuable on the market, exchangeable, renewable—as does the value of any revelation, anthropological or cosmological, in human history. It can belong to a majority of us. If the differential information has no market value, it will fall into neglect, be forgotten, and turn to dust like the idols of the immemorial past. Modern science in this sense is the history of many cosmologically revelatory moments on a par with the anthropological revelations of religion. Originary science, by contrast, in its being bound fast to religious imperatives, is that form of inquiry practiced during the modestly pragmatic, unthreatening *prehistory* of natural science.

34 There is another perspective on this drama, however. The mythic figure of the individual scientific discoverer threatening to terrorize the helpless non-experts in market society with his explosive, sacrilegious, blasphemous research findings is a little unreal. No cosmological revelation takes root in collective memory unless it has taken place on the scene of human representation. The sparagmos inaugurates the category of *economic* value. Any scientific discovery that endures—heir to the sparagmatic violence that makes immediate hands-on contact with the object, rather than keeping it at the great distance demanded by sacred prohibition—will have economic value that endures.⁽⁴¹⁾ Mad science as the extremity and perversion of modern science is the form of representation of the object that threatens to destroy the foundations of economic value, to produce self-destructively the apocalyptic product that will shut the market down, annihilating the human requirement that the divisible portions of the cosmological object be exchangeable. Mad science desacralizes its object in such a way that a majority of people do not want to “buy it.”

35 In Victor Frankenstein’s discovery of the “secret of life,” even though it is vaguely described, Mary Shelley gives us materials for thinking about the unstable analogy between religious revelation and scientific discovery (here renamed scientific *revelation* in an effort to be provokingly theistic). The first set of materials appears in the segment of *Frankenstein* that narrates that event in the text which functions like the discovery of a Law of Nature or the formulation of a unique theoretical insight: Victor’s research success in finding the “secret of generation.” The narration of this discovery contains signs of Mary Shelley’s intuition of what we now name the tension between “pure” and “applied” research. (The paradoxical animation of the Monster, we will consider below.) The passage between discovery of the secret and the practical implementation of it, its technological application in the building the Monster, marks a difference of which Victor himself is conscious: the move from testing the secret as a unique Law of nature to proving its maximal representation in the Creature makes him pause.⁽⁴²⁾ But even in his remembering of the pure discovery of cosmological truth, there is a contradiction between the humility implied by his saying he almost did not discover the “secret of life” and the ambition implied by his saying that he went through terrible exertions to discover it. The note of humility is sounded in the sentences reporting that after “two years” of study in Ingolstadt, as he tells Walton, he made “some discoveries in the improvement of some chemical instruments, which procured [him] great esteem at the university” (1.3.78). The value of that esteem seems exhausted when his education in chemistry as such is complete.

When I had arrived at this point, and had become as well acquainted with the theory and practice of natural philosophy *as depended on the lessons of any of the professors* at Ingolstadt, my residence there being no longer conducive to my improvements, I thought of returning to my friends and my native town, when an incident happened that protracted my stay. (1.3.78) [emphasis added]The “incident” is the discovery. The crisis point reached prior to it, is that of a flattening equality (humiliating for Victor) with one’s mimetic models, the unstable point at which positive mimesis of submission to a superior is no longer

possible and negative competition looms as a possibility. Imagine: Frankenstein (at least *he* says) just about gives it up. He is almost forced to return home to Alphonse and Elizabeth as one whose contribution to chemistry is only that of a technician's tinkering, almost ready to leave University as a "petty experimentalist" rather than a "man of science" (1.2.77), to use the terms of M. Waldman's invidious opposition.⁽⁴³⁾ It is a radical understatement for Victor to assert "an incident happened that protracted my stay," given the tremendous consequences of that "incident" and the prolonged extent (months, years) of the "stay." The real ambitiousness is betrayed a little later: "After days and nights of incredible labour and fatigue, I succeeded in discovering the cause of generation and life; nay, more, I became myself capable of bestowing animation upon lifeless matter" (1.3.80). It seems that an "incident that happen[s]" in the passive mode of egalitarian self-effacement may at the same time be the result of "incredible labour and fatigue" in the active mode of ambitious usurpation. Whatever Victor must do to build and animate the monster, it is clear that in order to discover the "secret" in the first place he must have worked with dead animal and human flesh. Further, it is strongly suggested in the context of the blasted oak and the kite-flying and other hints that he used electricity. Mary Shelley knew about current public experiments with the "animation" by electrocution of dead flesh, as performed by Joseph Priestley, Luigi Galvani and others (Vasbinder 89). We would contend nevertheless that inasmuch as this stage of Frankenstein's research is removed from the making of the humanoid, to call it "pure" is not a misattribution: knowing the facts about how nature works and making the technological product are separable.

36 We should perhaps not be surprised that Victor describes the "pure discovery" in language reminiscent of Saul's conversion on the road to Damascus.

I paused, examining and analysing all the minutiae of causation, as exemplified in the change from life to death, and death to life, until from the midst of this darkness a sudden light broke in upon me—a light so brilliant and wondrous, yet so simple, that while I became dizzy with the prospect which it illustrated, I was surprised that among so many men of genius, who had directed their enquiries toward the same science, that I alone should be reserved to discover so astonishing a secret. (1.3.79-80) Although this passage is describing the discovery of the theory preparatory to the much more spectacular animation of the Monster, it is still loaded. Consider the difference between the a-figural spiritual revelation of the resurrected Christ in Saul's conversion experience on the road to Damascus,⁽⁴⁴⁾ and the unredeemed, non-resurrected, dead disfigured flesh on the laboratory table of Victor's scene of revelation. Notice that this event takes a form which recalls the resentment-vulnerable *firstness* of the initial sign-user on the originary scene, itself the minimal model of the scientific usurper. The quality of Victor's experience rests in a liminal space between the involuntary "election" of the tragic hero typical of the neoclassical esthetic ("I was surprised that... I alone should be reserved") and the self-centralization typical of the romantic esthetic (he *dubs himself* one of the "men of genius" without blinking at the irony we see from outside). Therefore, the "light" that breaks in upon Frankenstein the apostle of

atheistic modernity when he discovers the “secret of generation,” is the light that makes him feel unique “among so many men of genius” and makes him feel that he has been “reserved” to make the discovery. Frankenstein becomes “dizzy with the prospect which it illustrated” not because of any pious feelings of religious awe for the cosmos as God’s handiwork; on the contrary, he is dizzy because the information will (he hopes) make him *famous* among men and *powerful* as the cartoon demi-god of the new “species” he wishes to create.⁽⁴⁵⁾ His elation returns us to our formula binding desacralization of the object to exchangeability of the object: the moment the sacred “secret” emerges, the scientist experiences its human value primarily as projected exchangeable economic value—as a projected measure of the scientist’s *human* prestige, quantified on a social scale of praise and glory (and, in many nonfictional cases, a scale of good old financial profit). Frankenstein, meanwhile, gives little thought to how other people might respond to his fathering a new species on the planet, even if a little thought would show him the impracticality and perversity of such an experimental design; but as we have established, the expert in cosmological science (or chemistry) may well be deeply naïve in matters of religious necessity (or anthropology). Victor represents the naiveté of such experts to spectacular effect.

37 Frankenstein’s education and temperament do not outfit him to take the “secret” onto the public scene and share it with others. To some extent, Mary Shelley is providing in Victor’s total self-isolation a sociological and psychological explanation for the evil that Victor will do in his making of the monster. She nods to the cultural determinism of her father William Godwin and her mother Mary Wollstonecraft, the idea that the malleable materials of youth are molded by upbringing and environment into the less changeable shape of the adult: the permissiveness of Victor’s upbringing, for example, gave him lots of practice in taking liberties, making it easier for him to take liberties with the uncreated monster.⁽⁴⁶⁾ In originary terms, however, we would restore Victor to his core status as the scientific usurper of divine centrality. For us, his self-isolation acts out the failure of his scientific approach to begin to *minimize the desacralization* that his pure research discovery makes into a technological possibility. Originary analysis would emphasize Victor’s withdrawal from the scene of human exchange (public or domestic) as a vain attempt to get outside human mediation. The result of Victor’s education, in combination with his inexplicable and remorseless egocentricity, is that he expels all human ties except the *one* he has always treasured: the tie to the alchemists who modeled his desire to create the homunculus gigantic. His competition with his professors, his indifference to his family and fiancée, even his weird failure to consider what things will be like for the humanoid he is making, all these may be subordinated without loss of significance to the anthropological model of the originary scientist gone modern and mad: the model of the usurper who has *failed to preserve in originary memory the experience of the scene*.

38 Let us not brush off the anthropological implications of the originary *isolation* of the mad scientist at his moment of discovery. He has not simply gone out to bring something back to

us; he has gone way out on his own, turned his back on us, left us behind, and forgotten us altogether. He must do so in order to go the way of the mad. Moreau's island laboratory as imagined by Wells, R.U.R.'s remote factory as imagined by Capek, Tyrell's corporate pyramid as visualized in *Blade Runner*-all the descendants of Victor Frankenstein follow the model of this "inhuman" aloofness. In no small measure, the horror we feel at the perversity of Frankenstein's self-made isolation both when he creates the monster and later when he maintains obstinate secrecy even as it kills innocent people, is horror at the total absence of any institutional presences in his fictional world that might check his liberty or require him to engage in exchange *before* the construction of the monster. Whatever happens in later nineteenth-century English novels, the novel and the police do not coincide here. Scientific inquiry for the good requires, before it can flourish, democratic political institutions and economic institutions that support free market exchange, including regulatory institutions (Eric Cohen 786-87; Fuller 52-53; Frankel 929-30; Morgenthau 1402-04). It is only in exchange that is at least minimally controlled (remember "unconsciously controlled anarchy") that the successful pursuit of the truth in and of Nature can be valued and the products thereby made possible, exchanged. But the centerless model of exchange characteristic of modernity is vulnerable.⁽⁴⁷⁾ Modern science throws into stark relief the inseparability of our society's ethical flourishing and the instrumental effectiveness of those public institutions regulating knowledge exchange. We experience that ethical flourishing or weakening first as human individuals, not as professional members of such public institutions. That is, the power of science as detachable from the experience of the sacred makes visible to us the peculiar vulnerability of both the market in economic goods and the market in political ideas, their vulnerability as *institutions assigned the task of absorbing the effects of scientific knowledge*, the task of recycling the resentments created by modern science.

39 It is not coincidental that the market in economic goods and in political ideas also relies on the advice of experts, on statistics, on think tanks, on committees, on polls and elections (elections themselves might be seen as a form of knowledge production). Constitutional democracy is *rational* in this sense; it owes a massive debt to modern science. The institutional prestige of science makes Science a little like "God" in our situation, its power either to do harm or to provide benefits experienced as a kind of inscrutable Omnipotence. In the postmodern West, despite a minority of irrationalist and anarchist detractors,⁽⁴⁸⁾ "science" has become the name of the unacknowledged Legislator of objectivity that modern institutions as such are assumed to be respecting, the shared valuation of objectivity functioning as the tacit guarantee of fairness, justice, progress and other values dependent upon public faith in "objectivity" for their negotiation in the public sphere. The problem of modern science is that we its users must *resent* its mysterious central power, in proportion as we *desire* its benefits without conceding its priority to our desire. Institutional science is prior to our desire in that it gets resented as the sacred Deity used to be resented; indeed, ironically, science far too frequently gets resented in the name of the resurrected archaic sacred. If we *do* concede the priority of the scientific to our desire, if we concede that we do

desire to know the “objective” truth about how the whole unknowable sociopolitical organism (or machine or system or order) is doing, then we lessen our resentment of science a little precisely by thematizing it a little. Diligent reflection on the anthropological significance of *Frankenstein*, far from encouraging resentment of science, should encourage us to untangle the truth from the lies in the myth of the indifferent, elite, insidious mad scientist we may unthinkingly hate. Science has become sacred to modernity, but modernity seems reluctant to accept its sacrality—just as Victor Frankenstein must have his monster animated but fails to accept it once it is.

Paradoxical Animation: The Event Structure of Scientific Revelation

40 Frankenstein’s animation of the creature is itself a scene of originary representation, an ironic recasting of the moment in which humanity and its transcendental Other came into being together. The mad scientist comes into being together with the *artificial* humanity of his Monster. Recall that it was only the originary memory of the scene that kept the “unconsciously controlled anarchy” of the sparagmos from obliterating the memory of sacred and esthetic experience and returning us to animality. Recall that the originary science practiced by the first usurper in ritual showed respect for sacred and esthetic imperatives; the originary scientist, out of a wish for self-preservation and preservation of the community, brought onto the scene a new object bearing only a *minimal* difference from the first sacred object as recalled by image-in-memory. Now consider the modern science of Victor Frankenstein, and the object he intends to bring to the scene of human representation. If any communal mediation other than the model of the alchemists were to interfere, Victor would begin to *think about* what he is doing. He would begin to ask himself why he is putting animal and human body parts together, why he is building a creature eight feet tall; what value Alphonse or Elizabeth might assign his project; what he might do with the animate thing once it does come to life. He asks none of these ethical questions; his only questions are how to make the chemical experiment work and whether it will.

41 The most familiar narrative transition in Mary Shelley’s text—the graphic animation of the monster, the *sine qua non* of every Frankenstein movie—is also one of the most difficult transitions to interpret. There will be no understanding of what is at stake in the moral failure of Frankenstein unless we get outside the victimary mode of interpretation, with its rather exclusive focus on the parental abandonment model of Victor’s evildoing. If we observe the universality of the repulsion inspired by the creature’s ugliness and consider some ontological complications of that universality, we may step outside this dominant trend to some extent. Given the failures of Victor, we are sorely tempted to assimilate our disgust and fear to the resentment of the Monster, Victor’s manufactured victim; we are tempted to take the Monster’s side one-sidedly. But let us not. In an essay which first appeared in the Norton Critical edition of *Frankenstein* (1996), Lawrence Lipking aptly summarizes the tendency of victimary interpreters: “when they look at Frankenstein’s creation, they no longer see a Monster, as earlier generations did; they now see a Creature. And other

aspects of that creation, (for instance, Victor Frankenstein's genius) they do not see at all" (317). The victimary reading leans toward a *total refusal* to grant any value to Victor Frankenstein's effort and success ("genius") as an experimental scientist. It leads to assessments of the novel's thematic content such as the following.

Shelley implicitly endorses a redemptive alternative to Frankenstein's egotistical attempt to penetrate and manipulate nature. This is an ethic of care that would sympathize with and protect all beings, that would live in beneficial co-operation with Nature, and that would bring about social reform not through a violent French-style revolution but rather through peaceful, gradual evolution. Such an ideal flickers in the happy domesticity of the loving DeLacey family. (Mellor 23-24) This way of taking sides against Victor and for the innocent artificial human misses much and distorts more. All the characters in the novel (as in most novels) are "egotistical," the Monster included; one cannot live in market society without being "egotistical." It is either morally suspect or conceptually empty to claim that "all beings" deserve protection and sympathy. Anyway, it is the lighthearted lover of sensibility Laurence Sterne in *Tristram Shandy*, not the brooding Mary Shelley, who bequeathed us the model of "all beings deserving protection and sympathy" with his picture of the war-wounded Uncle Toby letting the housefly go free out the parlour window. Mary Shelley is rather more sympathetic with violent revolution than this passage suggests (Clemit 30). It seems odd to speak of "bringing about" an "evolution" (unless we are thinking about human genetic engineering, but this critic is thinking about the non-Promethean opposite). The DeLacey family, for their part, mistreat the creature with a hostility as theatrical as that of the abandonment that Frankenstein performs. Their microcosmic idyll cannot bear the burden of a social ethic, even if only by "flickering" it across our eyes.

42 One place to begin a more temperate analysis of Victor Frankenstein's moral failure is in consideration of the clue in the novel's subtitle, the *Modern Prometheus*: it is on one reading an oxymoron, "modern" contradicting "Prometheus." Reading it aloud, if we place the emphasis on the "Prometheus," the phrase foregrounds Victor at the expense of his surroundings: it might imply that Victor is courageous, defiant of the anyway-absent gods in an admirable way. But we might also believe Shelley wanted us to place the emphasis on "modern"-the *modern* Prometheus. Spoken thus, the phrase emphasizes the historical context, the frame of the modern time containing the figure of usurpation within. With this emphasis comes the ironic hint that the "modern" context might lead us to reject as inappropriate the anti-democratic exceptionalism of Promethean desire. *Modern* Prometheanism would be awkward, anti-social heroics impossible for others to admire without resentment. The modern Prometheus cannot be a *real* demigod. As modern people, we should agree not to try to be demigods. As we have established, Victor's ambition (as distinct from his method) is not "modern" but alchemical, occult. Furthermore, Prometheus means "forethought" or "thinking ahead," as the theologian Ted Peters points out in his definition of "Promethean freedom," the form of freedom least compatible with religious humility. (49) Victor Frankenstein will totally *lack* forethought, will be without forethought;

he will not count, therefore, as a genuine Prometheus but only as a blunderer, a mad scientist, all power and no wisdom, all incalculable danger and no certain benefit. Men could share fire, but they cannot without self-destruction share the means to make artificial humans.

43 One of the difficult-to-grasp implications of the universality of the fear of the Monster's ugliness, a fear shared by all characters including the Monster himself, including the Monster himself, also helps us temper our response to Victor's failure. The universality implies that, however we might judge Victor for not recognizing the ugliness of the Monster *before* animation, we are not free to blame him for fearing the Monster *after* the moment of animation. We must not confuse the moral question of responding to the animated Monster with the moral question of looking upon the un-animated Monster, precisely because the latter is not yet a monster. That is, the question of why Victor does not foresee the ugliness becomes less pressing in proportion as we recognize that the text compels us as readers to admit we would react to the *animated* Monster with totally unfair loathing, just as Victor and all others inside the novel do, in any case. What goes on after the moment of animation is in effect irrelevant to the mystery of the lack of foresight.

44 There is no doubt Mary Shelley designs things such that we are expected to feel sympathy for the abandoned living wretch; indeed, we must feel it to begin reflecting on the ways the Creature's suffering marks out significant ontological boundaries delineating "the human." But I also contend that Mary Shelley deliberately blocks that sympathetic response, deliberately frustrates it, exposing in advance its futile hypocrisy. Shelley demands that we sacrifice any self-elevating illusion that we could have acted other than Walton, Victor, or the cottagers if we were in their places when confronted with the animated monster. The ugliness of the animated Monster is the concrete barrier that guarantees his being not-quite-human, his ontological otherness. The myth requires that he be at least as terrifying as he is pitiable, if not more terrifying than pitiable. The point is that Frankenstein *does not succeed in creating a human creature*. The proof of this is the way we are expected to respond to the monster as visual figure, perceptual content. Human characters and human readers, at a visceral, animal, appetitive level, as well as at the representational level of the esthetic and erotic, supported by libido but mediated by the sign, are condemned to find the Creature horrifying. He is not one of us. George Levine wisely notices that "the monster's isolation derives not so much from his actions as from his hideousness" (11). Indeed, there is no action the Monster can perform that will remove his ugliness and make him into a human: that is the horror of his made situation. Denise Gigante, in a valuable study of the ugliness idea as a philosophical enigma, correctly argues that "the text demands that we recognize his deformity as the precondition of the text's ethical concerns and *the occasion for the narrative itself*" (355) [emphasis added]. From the ineradicable ugliness of the Monster, all the sufferings of the Monster follow. Had he been handsome, Victor could have abandoned him and his independent resources would have been sufficient to permit his self-integration into human community. Our responses to his ugliness are not the results of mere

“prejudice,” a “social construction” as one hears almost everything called these days.⁽⁵⁰⁾ Although it is an exasperating conflict between responses, we must face his ugliness and reject him, even as we witness his sufferings and wish we could embrace him. But we cannot; he is too ugly. That is the point Mary Shelley is trying to make with the *universality* of the fear. Once we concede this, we lose something in moral superiority to the human characters inside the fictional world who loathe him with their paradoxically egalitarian injustice, but we also gain something in ethical understanding, understanding both of Victor’s abandonment of the animated creature and of his *failure to foresee* the ugliness before the animation.

45 Hindsight is perfect; it is helpful to recall the formula “the anticipation of retrospection is the master trope of narrative” (Brooks, *Design*). But if we are to judge Victor Frankenstein for failing to foresee the Monster’s ugliness, we must be careful not to judge him in contradiction to the very *impossibility* of advance hindsight which constitutes part of our human identity with him (as opposed to our difference from the artificial human, the victim partly of that impossibility). We must sacrifice our desire for moral superiority in the face of—ironically—the cold scientific fact. The event-structure of scientific revelation must inspire our hesitation before the temptation to perform a total condemnation of Victor’s decision to animate the inanimate. The irreversibility of the effect of the animation, like the irreversibility of any scientific discovery about the incredible and never-before-grasped cosmological truth, makes the new information appear to have always been available. But the meaning of the revelation as *event* implies, on the contrary, that the new information is made available only in the event, with the event, by means of the event. That feature of the cosmological object which is revealed appears always to have existed, but prior to the revelation of its existence, there was no way of *knowing* it. Up until the moment of the animation of the Monster, Frankenstein does not know: he imagines, believes, predicts, but does not know. He has looked but he has not been able to touch. Frankenstein’s animation of the monster is an originary scene on which *Frankenstein plays God*: just as God and humanity are revealed to each other at once in the originary event, just as we cannot know God without tearing apart the object that revealed him in the originary event, so is the evil done by Frankenstein coeval with the animation of the monster, the human necessity of the monster’s abandonment *one* with its animation into horrific moving ugliness. Before that moment, the ugliness of the monster has not been *completely* revealed and Victor has not successfully performed the one and only scientific experiment that makes him famous, makes him the founding model of the mad scientist. Almost every Frankenstein movie ever made shows an understanding of this.

46 Mary Shelley has intuited the identity between the event structure of religious revelations of “sacred” truths about the human community and the event structure of scientific revelations of cosmological truths about a God-evacuated Nature. Our formulation derives from the emphases of originary analysis, but Roslynn Haynes comes close to it in her list of the ways in which Shelley’s work “pre-empted many of the philosophical and

psychological considerations that have subsequently been recognized and inextricably linked to scientific research." Haynes' second "consideration" is this.

[Mary Shelley's] chief purpose... is to explore the ethical consequences of the *success* of Frankenstein's experiment. In scientific terms, the creation of the Monster is a brilliant achievement; yet Frankenstein's horror begins at the precise moment when the creature opens its eye, the moment when for the first time Frankenstein himself is no longer in control of his experiment. His creation is autonomous and cannot be uncreated any more than the results of scientific research can be unlearned, or the contents of Pandora's Box be recaptured. Hence, *paradoxically, it is at the moment of his anticipated triumph that Frankenstein qua scientist first realizes his inadequacy.* (97) [emphasis to last sentence added].(51) The problem of modern science is that it has the power to violently expose the vulnerability of the cosmological object, which vulnerability becomes an ethical problem because it opens up to us the anthropological truth of our total responsibility for the knowledge of the cosmos we have, the cosmos we intend as significant. Given the effectiveness of the scientific method, and given the democratic context of the dissemination of technological goods in market exchange, humans only have other humans to blame for the effects of such shocking revelations of cosmological truth as we witness in the animation of Frankenstein's Monster. Having only other humans to blame—our triumph is one with our inadequacy to the cosmological object—we cannot help but miss the now-defunct, then-ininitely-valuable blame-ability of the transcendental Divine. Therefore, because we miss God, instead of blaming a pre-human God for making the cosmos such as we find it is, we blame the scientist for revealing the very thing "God" or the absence of God has permitted the scientist to reveal. The materialist prohibition against blaming God for the way the cosmos has been made (materialism explains nature partly with Laws of nature that need no divine legislator) explains why we as readers work so hard to find satisfying ways to blame Frankenstein: because his revelation, a revelation of the scandalous freedom he possesses to go ahead and make the dead material thing into a living Monster, forecloses the possibility of our blaming God in the traditional way for such seemingly total evil. We have only this human scientific usurper to blame (unless we exercise the democratic courage to blame ourselves for not having paid any attention to the strange fellow). I repeat that there is a concrete ground that makes our desire to blame understandable: I do not wish to delegitimize our sympathy for the creature, even though it is futile and hypocritical (and as morally meaningful as many other such futile hypocrisies). The painful horror for the monster, as a user of human language capable of experiencing resentment and desire, is that his non-human being legitimates his feeling that he should be free to participate in the human economy; but the mad scientist's failure of foresight has condemned him to cosmological object status, as a permanently disqualified "thing" lurking on the edges of the human scene of representation and exchange.(52) However, even though Victor's failed experiment is based on the de-humanizing error of thinking that a human being can be "made" a cosmological object alone and off-stage from the scene of community, the truth of the experiment in its fullness can be revealed only in the event. This impossibility of total

scientific foresight, with its destabilizing implications for ethical certainty, may be the most disturbing anthropological truth about modern science that *Frankenstein* reveals.

47 It is frustrating not to be permitted to condemn Victor Frankenstein for not seeing the ugliness of the monster in advance.⁽⁵³⁾ If we cannot without hypocrisy condemn Victor's parental abandonment of the creature *after* it has been animated, surely, we protest, we can tax him for setting up the project in the first place, not making reasonable predictions even despite his isolation. His total isolation, as we have established, is a necessary ingredient of his amoral success. It is a deeply moral desire to drive back Frankenstein's evildoing to an identifiable cause, a first move, a fixed marker of criminality: we want to make the Monster the same as us, equal to us. *But the Monster is an artificial human.* Mary Shelley, I suggest, would lead us away from the luxury of the resentment that would simply condemn Victor by allowing us to flatter ourselves that there is nothing of us in his terrible error. We desire in our modernity to know the object. The "catastrophe" of the Monster's animation cannot be grasped by any set of logical propositions: like the originary event itself, Victor's production is not reducible to a metaphysical assertion or a set of sentences. Something happens that lets us see and know something totally new, and abstracting from the event can never quite capture its ostensive force as the revelation of the new. Frankenstein's doing reveals the problem of modern science: the impossibility of total scientific foresight, in the context of the power of modern science to produce cosmological effects, has destabilizing implications for ethical certainty.

48 It is worth keeping in mind that Victor is an unreliable narrator; at the time of the animation, he was doubtless in a much worse state than even his distress-rich description based on memories years afterward suggests. In all his accounts of the build-up to the animation, Victor describes himself as having lost all mental and spiritual contact with everything but the one object alone of animating the creature. He desired nothing but the success of the experimental application, the technological triumph. But unanimated, the creature is nothing, only a test case, data that has not been put through the computer. The fire has not been made from scratch for the first time, the new weapon has not been fired for the first time, the gene has not been spliced for the first time, the medicine has not been taken for the first time. There is a certain injustice in demanding that Frankenstein fear the monster *before* the monster has been animated because the unanimated monster is not, strictly speaking, to be feared. That is (ironically) the scientific view. What is there to be afraid of before the monster is animated? The monster, before animation, is a mere mass of dead body parts.⁽⁵⁴⁾ Up until the moment that the experiment succeeds, we have no certainty: it very well may not work. Up until the moment that the experiment succeeds, nothing decisive has been revealed. Frankenstein does use the word "ugly" to describe the Monster's appearance prior to its animation. But what we should grasp in his confession is the assumption he makes that Walton will take for granted, as he does, the before/after dichotomy of *revelation* and the way that it qualifies his vulnerability to *moral* blame:

Oh! No mortal could support the horror of that countenance. A mummy again endued with animation could not be so hideous as that wretch. I had gazed on him when unfinished; he was ugly then; *but when those muscles and joints were rendered capable of motion*, it became a thing such as even Dante could not have conceived. (1.4.86) [emphasis added]. It is the event, the *animation*, the muscles and joints becoming capable of motion, which makes all the irreversible historical difference. (55) Later, when the now-independent Creature confronts him and Victor tries his futile best to do his moral duty and respect its desire for a female companion, he structures the verbal account of his mixed feelings in the same terms: his moral sense is overcome by instinctive repulsion at the creature's anti-erotic power, because the *motion* of the Monster annihilates its claim to human reciprocity: "His words had a strange effect upon me. I compassionated him, and sometimes felt a wish to console him; but when I looked upon him, *when I saw the filthy mass that moved and talked*, my heart sickened, and my feelings were altered to those of horror and hatred. I tried to stifle these sensations" (2.9.171) [emphasis added]. Mary Shelley is hoping that we will admit we would have felt the same way. To protest that we are better than Victor, no, we would have been nice to the poor monster, or to interpret the text as if that were the truth, is to indulge a victimary fantasy.

49 In the animation scene, Mary Shelley shows us the disturbing link between the event structure of scientific revelation and religious revelation. Scientific revelation, to happen, does *not* require the immediate response or co-presence of the human community any more than the originary scientist's initial acquisition outside the ritual scene of new substitutionary objects to return to the scene requires it. The mad scientist might have help from others, just as Frankenstein has his alchemists and professors and manufacturers of equipment, but the truth he discovers is a cosmological truth and its "technological" implementation may be carried out without social or communal approval. The memorability of Mary Shelley's scene hinges on the intuitive economy with which it graphically links the *human playing God to God creating the human*. And yet the scene of the animation-creation of Frankenstein's Monster is originary in its unique indifference to the paradoxically expelled communal sense. It is as if Victor never intends anyway to return to the scene of exchange with what he is about to do. It is a scene on which it is foolish to fear inanimate matter. The matter remains inanimate right up until the transfiguring instant that the scientist takes the place of God and succeeds. The irreversible ugliness of the Creature can never be *revealed* until the creature is *animated*. Divine creativity (God makes humans) and scientific revelation (we may create artificial humans!) are one. Animation and revelation are one: the moment in which man succeeds in playing God is the moment in which the artificial human, itself an impossibility, is born. The moments are inseparable. The artificial human is a God-deposing monstrosity because its presence as the result of a scientific "creativity" founded on the willful forgetting of all ideas of God—including our hypothetical idea of the uniqueness of human origin, our anthropological idea of God—does something irreversibly violent. The presence of the artificial human obliterates the structure of the originary scene on which the *real* human community and God emerged together. Instead of

the sacred central object in the center that none of us as humans may appropriate, all of us aborting our gestures of appropriation, we have a mad scientist alone and the tortured object of his maximally desacralizing, minimally exchangeable gesture. It is an exchangeable gesture because we want to know: that is (good) modern science. But we do not want to know what the mad scientist does, and so the mad scientist becomes a mythic scapegoat of modern culture.

50 The mad scientist is impervious to our ethical anxieties, anxieties of which we should not feel ashamed, because this scientist exercises only a cosmological imagination, an imagination that has excluded considerations religious, esthetic, economic and erotic. To make a human being, for Frankenstein, is only a matter of "bestowing life." Once the monster is revealed, yes, he recognizes its ugliness; but then it is too late. It comes with the form of all revelations, in their irreversibility, that they entail some kind of knowledge that is "too late"; but the revelations of the mad scientist entail the most incalculable consequences imaginable that may be noted in shorthand by the phrase "too late." Mad science brings desacralizing objects to the community that it can never "take back" and put outside the community again (gunpowder, vaccinations, heart transplants, nuclear bombs, birth control pills, test-tube babies, fertility drugs, cloned frogs, sheep-goats: fill in the blank with whatever technological product you fear most). It is appropriate that the violence of the originary sparagmos is written on the Monster's hideous face, that which we cannot bear to look upon, the object we have destroyed in getting to know it. The once-dead thing, now a monstrous living Creature, will become the walking embodiment of almost-significant human being degraded into insignificant animality, waste matter, undesirable, ungraspable—the *cosmological object alone* as a disfigured victim assigned no value and permitted no meaningful part in human history. (We will try to do some justice to the Monster's own story in Part Three of this study.)

51 When Frankenstein isolates himself and builds the monster in his self-torturing madness, he is concentrating exclusively on the "object alone" and paradoxically forgetting the human mediation on the scene without which his "object" cannot have or create value. One implication of the originary hypothesis, as I have suggested, is that the "object alone" is an anthropological impossibility—in the sense that it is impossible to remove the cosmological object from the scene of representation, that is to say, from the triangular scenicity of paradoxical representation. The originary memory that sustains the human is the memory of the whole scene, including the "unconscious" memory of *mediation* through which alone the object might come to have value. Victor's self-imposed isolation, his dangerous solitude, is a symbol we need to re-vision, to see in the light of the moral tension between a cosmology indifferent to anthropology and an anthropology that should no longer refuse to be intimidated by cosmology. We need to see the symbol of the mad scientist's willful self-isolation in the light of the ethical tension between maximally desacralizing atheistic science and minimal religious faith in the prior necessity of human community. Mary Shelley is not simply following Gothic convention or playing psychologist in making the first mad scientist

do his work in willful solitude. She is intuiting an anthropological truth about relations between knowledge and exchange. The truth is that to the extent that the scientific worker who intends to bring a new object to the scene of human exchange, either the ritual scene or the modern market, somehow forgets the scene itself and focuses obsessively and exclusively on the object, to that very extent does the usurper risk bringing into the community an object devoid of any potential sacred, esthetic, or economic value. Therefore, as the novel dramatizes this truth, the closer Frankenstein gets to the moment of paradoxical animation, the moment of playing God, the less is he thinking about human community and the exchangeability of the object he is producing. He is not thinking but “doing his head in,” emptying his mind of human thought. Such emptying is hard work; it is no easy thing to practice dehumanization: “Although I possessed the capacity of bestowing animation, yet to prepare a frame for the reception of it, with all its intricacies of fibres, muscles, and veins, still remained a work of *inconceivable difficulty and labour*” (1.3.81); “Who shall conceive *the horrors of my secret toil*, as I dabbled among the unhallowed damps of the grave, or tortured the living animal to animate the lifeless clay?” (1.3.82) [emphasis added]. The self-centralizing romantic esthetic, with its “displaced theology of *creative genius*” (Fleming and Carroll) vastly increases the probability that such community-endangering risks will be taken. Originary memory means “taking into memory the context along with the sign”: that means taking into memory other humans’ signifying gestures. All cognition is cognition of the center; all originary value is value measured at the center; but to imagine oneself occupying the center in splendid isolation while denying the mediation of the periphery is God-damning anti-human madness, not originary thinking.

52 Furthermore, Victor’s failure after the experiment to learn from his mistakes anything about himself or God (indeed, he regresses into an inchoate, curse-making spiritualism) will reveal a truth of “hard” modern science: any sacralizing representation of the God-indifferent-to-humanity of ritual religion may now meet its match in a scientific representation of the human-indifferent-to-God of scientific usurpation. It is a scandal that God lets Victor get away with it: in playing God successfully, Victor proves that in his world, God is either dead or so passive that he might as well be dead.⁽⁵⁶⁾ Mary Shelley gives us Anselm’s ontological proof reversed and perverted: the imperfect human being by the very force of his aspiring, violent defiance of imperfection, “proves” the absence, which is to say the manifest indifference, of any Other Being who might put a stop to his impious interventions in the cosmos, including interventions that annihilate the sacred figure of the human body and annihilate the sacred value of the human being. The disfigurements manifest in the monster’s ugliness and the impossibility of his participating in social exchange are the very archetype of such interventions; the monster in Shelley’s myth suffers all too terribly from them, misbegotten as erotic and social potential, ugly and expelled.⁽⁵⁷⁾ Frankenstein is to the monster as Satan is to Job.⁽⁵⁸⁾ The mad scientist playing God actually only imitates Satan. We notice in passing that the entrance of the imperious ecological Yahweh in *Job* is conspicuously missing from *Frankenstein*.⁽⁵⁹⁾

53 However, we reject the knowledge-benefit of Victor's exposure of the truth about the very God he ignores only at the cost of rejecting our modernity. To put the mad scientist's inversion of the ontological proof in originary terms, *Frankenstein* heralds the capacity for disfiguration and maximal evil that modern science makes possible; but at the same time his science reveals the ethical necessity that we conceive of the God at the origin of humanity (if we wish not to go mad in our atheistic modernity) as an *afigural* Being whose very minimality and inaccessibility to disfiguration is the guarantee of the Being's capacity to outlast that evil which, done by humans playing God, has the means to destroy God in the act of denying God. The anthropological idea of God proposes that God and the human are coeval: to "destroy" God would be to destroy the human. Such an afigural God can find advocacy only in a minimally conceived anthropological idea, as the valuable, exchangeable object of faith in a scientific hypothesis. Therefore, ironically, in the end, anthropological science may put "hard" cosmological science back where it belongs: a knowledge of the sacred Being at the origin of the human, even in its hypothetical minimality, must become paradoxically sacred to desacralizing science, unless modern cosmological science wishes to risk being its own undoing. That is, anti-human cosmology—the doctrinaire defense of a cosmos imagined as *indifferent to* the human so as to legitimate an amorality respecting human being, suffering, identity—anti-human cosmology must submit itself to anthropology. Cosmology must submit to anthropology. The threatening container "cosmology" must be contained by the "anthropology" that refuses to be contained, scientific representation acknowledging its originary status as "merely human" representation so that it can continue to be representation performed by humans and for humans on the uniquely human scene of representation. There is only one scene of representation: it is the human scene, on which appears not the cosmological object alone but the object humans intend, and intend only by differing from their Divine Other. God as the unfigurable guarantee of the human, and the human community alone, meet and come into being together, opening themselves up to the cosmos, as the cosmological result of originary (paradoxical) representation. This is not the "anthropic principle"; it is originary thinking about cosmological science. The human is ethical, not cosmological; the object intended by the human must be intended as an ethical, exchangeable object, not merely "known" as a cosmological object. If it is the destiny of modern science to pursue the cosmological object alone, then modern science destroys itself just as Frankenstein destroys himself in the animation of the Monster.

54 Having said all this against modern mad science, I would remind the reader that the counter-intuitive portion of my thesis has been that we should not at all indulge a generalized resentment against modern science. We should not resent even the fantastic figure of Victor Frankenstein without a minimal reserve of self-reflexive hesitation; to neglect that hesitation would be to deny our participation in the "constitutive hypocrisy of romanticism": pretending to hate the market in scientific ideas and goods does not permit us to escape the technological world we inhabit. All mad science is modern science, but not all modern science need be mad science. We must pay proper respect to the astonishing fact (for example) that the monster himself, in the final scene of Shelley's novel, blesses the

memory of Victor after having destroyed him.(60) Condemning Victor in ever more elegant ways—and the temptation to condemn him is impossible to resist—makes it difficult to grasp the event of his mythic self-production. If we wish to stretch our understanding of Shelley’s myth to the limit, we will shake hands with the first mad scientist in an acknowledgment of his success in having created the artificial human, without withdrawing our complaint that his performance represented evil in action. The toughest question is always the one about when and why mad science becomes a necessary evil. Just as in the originary sparagmos the first human society managed to contain the evil of private resentment in originary memory of the good, so in our response to *Frankenstein* we might aim to contain the evil represented by Victor (who is after all, thank God, only a fiction), rather than letting our resentment of him block our open-minded grasp of the meaning of his disastrous venturing forth.

55 My argument has included the proposal that we cannot expel from our society and economy the risks involved in the process of modern scientific discovery—or the scandal of the appearance of Divine indifference inherent to modern scientific revelation—without disowning the freedom to take responsibility for the historical situation of our state-of-knowledge. Modernity, including modern science, bequeaths us that freedom to take responsibility as one of its founding principles.(61) Where religion would forbid us from touching the cosmological object as sacred, originary and modern science both invite us to handle it and find substitutes for it. Therefore, we should notice that the one thing Victor Frankenstein himself “proves” by means of his experimental success is the liberty of romantic selfhood that accompanies modernity: human self-centralization and Divine Self-withdrawal are one.(62) Whatever we take away from the idea of God in getting to know the truth about the Nature over which God once presided, we may give back to God in the form of a new and far more difficult, “scientific,” way of knowing God, through a minimal hypothesis of the anthropological idea of God.

56 Victor Frankenstein as fantastic figure represents the scientist determined to double the origin of humankind in the creation of an artificial human. Victor Frankenstein as “realistic” figure represents the scientific atheism that rejects any obligation to remember the transcendental Other we shared at the cosmological event of our unique human origin. That Frankenstein learned nothing from his error, and that his real-world imitators in the camp of scientific atheism even today persist in their angry or serene obliviousness to the event structure of scientific revelation, certainly does not mean that we who grasp Frankenstein’s story are forbidden to learn from his anti-example. His anti-example teaches the anthropological truth that playing God by trying to re-produce, to re-make, to double the unique cosmological and historical event of human origin, is an *impossibility*. It will never happen, because it only had to happen once. (Nor should we forget the mystery that it did not have to happen at all. We did it: together with God, we named God, who had to be named, whom we had to name in becoming human.)(63) We should celebrate that “once” rather than condemning ourselves to the restless misconception, the vain dream, that for some obscure “romantic” reason we must do it again. The real human does not need any

artificial human other. We do not need to make monsters, nor do we need to make perfect human beings. We can begin by being ourselves, human.[\(64\)](#) God our Other was with us at the beginning, so we do not need to play God in the mode of being God. We should learn the lesson of Frankenstein.

Notes

1. We will be using the 1818 edition of the novel. I am aware of the competition between the 1818 and 1831 editions for “textual authority,” but agree with the reasons given by the Broadview editors MacDonald and Scherf, reasons explained in greater detail by Marilyn Butler’s essay on the “radical science” of the earlier novel, for the preference of the less-doctored, rawer original text. Among other disadvantages, the 1831 edition presents a more “fatalistic view of human nature” and a less interesting, more “mechanistic view of non-human nature” than the 1818 edition (MacDonald and Scherf 39). A blanket obedience to that editorial principle that insists on the automatic, unquestionable authority of any later revision as opposed to any earlier one on the basis of “final” authorial intentions has always puzzled me. What if the intentions of a later revision betray the insights and emphases of an earlier edition? Should one not judge each conflict between editions for textual authority on a case-by-case basis? Must one prefer the later edition even if it is, critics agree, *boring* by comparison with the earlier one? I believe not. [\(back\)](#)

2. Williams writes of Percy Shelley’s behaviour just prior to his meeting Mary Wollstonecraft Godwin: “Reading [William] Godwin’s *Political Justice* had confirmed him in the opinion that the first step on the way to comprehensive reform was to purge society of all religion. The pamphlet he had written with his friend, Thomas Jefferson Hogg, *The Necessity of Atheism*, had failed to achieve this end, though it did get the pair of them expelled from Oxford in 1811” (37). [\(back\)](#)

3. The scholarly basis for my biographical assertions in this paragraph, where not explicitly noted, may be found in Christopher Small (1972) and John Williams (1999). [\(back\)](#)

4. Ketterer’s study must be classed among those carefully wrought and intelligent monographs that leave one, initially, feeling that there is nothing more to say since the critic has done such a thorough job. With respect to the opposed directions I am charting, the following is also relevant: “the construction of the fictional world *Frankenstein*, the construction of the Monster, and the construction of the human world are offered as analogues of one another. *The extent to which the three areas of analogy are merely rough parallels and the extent to which they represent a fundamental identity is left open*” (96) [emphasis added]. What I will be calling the *doppelganger* approach would insist on the “fundamental identity” of the constructions, whereas the literalizing approach would prefer to take them as rough parallels, the differences between the three “areas of analogy” being of paramount importance. [\(back\)](#)

5. The “ineradicable tension” to which I refer is explored in the process theologian John F. Haught’s *Is Nature Enough? Meaning and Truth in the Age of Science* (2006). I notify the reader scrupulous about definitions that by “modern science” I am referring to what Haught labels “scientific naturalism.” Here is a quick sampling of the doctrines that Haught questions: “Science is a fruitful but self-limiting way of learning some things about the world, whereas scientific naturalism is a worldview that goes far beyond verifiable knowledge by insisting on the explanatory adequacy of scientific method” (6); “The dismissal of religion as mere illusion usually comes from persons who are fully immersed in the heroic narrative that tells how genuine enlightenment can come about only by way of the asceticism of impersonal knowledge. And this very modern myth tends to mold passions, shape intersubjective involvements and determine aesthetic preferences among naturalists in no less forceful a fashion than religions have always done with their own adherents” (50); “The scientific method enshrined by naturalism as the privileged road to the real is by definition not interested in subjects, only objects. Subjectivity does not show up on its radar screen, even when it tries to understand minds” (52). For statements from other experts who believe in the persistence of the “ineradicable tension,” see Hahn (155), Sheehan (262), and Eichner (*passim*). My argument also takes as one of its principles Hans Eichner’s claim: “As French *philosophes* like Holbach and Diderot showed in the eighteenth century, the mechanical philosophy inevitably drifted toward atheism” (10). I also agree with the philosopher of biology John Dupre, and takes as one of my assumptions his formulation of what Brooke calls the “conflict thesis”: “But it is nevertheless the case that science and religion speak for radically different conceptions of the universe. And as the conception fostered by [science] has become more compelling, so that promoted by [religion] has become less tenable. Science does not contradict religion; but it makes it increasingly improbable that religious discourse has any subject matter” (60). The aim of ordinary thinking is to formulate anew the “subject matter” of “religious discourse” as that of *anthropological* truth. Meanwhile, the reader may be assured that I know my reference to “ineradicable tension” collides with the historian of science John Hedley Brooke’s position: “The fundamental weakness of the conflict thesis is its tendency to portray science and religion as hypostatized forces, as entities in themselves. They should rather be seen as complex social activities involving different expressions of human concern, the same individuals often participating in both. In its traditional form, the [conflict] thesis has been largely discredited” (42). Brooke’s valuable historical studies take as their organizing principle the thesis that “we should be more concerned with the use to which scientific and religious ideas have been put in different societies than with some notional relationship between them” (11). Ironically, however, the very existence of his book, the symbolic capital in its title, reflects the questionability of his claim. Perhaps Brooke might be open to our approach as one that does not repeat the conflict thesis “in its traditional form.” ([back](#))

6. The complete sentence reads: “The Jew is split, and split first of all, between the twin poles of the letter, allegory and literality.” ([back](#))

7. One problem for the allegorical readings that claim the text is Gothic romance is, conversely, the atypicality of *Frankenstein* as Gothic, all the features of it that break decisively with Gothic models. The pioneering *Frankenstein* scholar James Rieger long ago noticed such breaks: he described the novel as “totally divorced from and unembarrassed by the Gothic tradition, some of whose ancillary characteristics it nonetheless preserves” (470). [\(back\)](#)

8. I agree with everything Sherwin is saying here except his characterization of the “figuration” of the Creature as “uncanny,” which substitutes for Mary Shelley’s originary insights a convenient recourse to the overused Freudian category, to which her figuration of the monster cannot be reduced. See the study by Denise Gigante, to which I acknowledge a major debt, for a careful explanation of the difference between the ugly and the uncanny. The Monster is Ugly, and ugliness is not simply the opposite of the beautiful. [\(back\)](#)

9. For a rapprochement between generative anthropology and psychoanalytic thinking, see Gans, “Two Psychoanalytic Categories: Eros and the Unconscious” (*Signs of Paradox* 111-127). Rene Girard, although he continues to be sadly ignored by victimary thinkers who find the anatomical invidiousness of psychoanalytic mythology infinitely encouraging, got it right long ago: “The main pitfall of psychoanalysis . . . is to assume that the individual being is rooted in scandal, according to an absurd and mythic thesis that presents parricidal and incestuous desire as the condition for the development of any form of consciousness” (*Things Hidden* 417). Gans says something similar: “To understand the originary form of desire is not suddenly to remember, as in a horror story, the figure one had not consciously noticed, but to become conscious of the alienation of desire in the present. . . . It is to be hoped that the producers of psychoanalytic discourse may . . . be cured of their infatuation with objectal cathexes by letting emerge within their own theoretical consciousness the basis of desire in the scene of human origin” (*Signs* 127). [\(back\)](#)

10. One description of this “problem of the general possibilities” comes from Peter Medawar: “Catastrophe apart, I believe it to be science’s greatest glory that there is no limit upon the power of science to answer questions of the kind science *can* answer. . . . That which is science’s greatest glory is also, unhappily, its greatest threat: for taking ‘possible in principle’ to signify ‘not being such as to flout the second law of thermodynamics’ or any other bedrock physical principle, what is being said is, in effect, that in the world of science anything that is possible in principle can be done if the intention to do it is sufficiently resolute and long sustained. This places upon scientists a moral obligation which, considered as a profession, they are only just now beginning to grapple with. From our political masters it calls for a degree of wisdom, scientific understanding, political effectiveness, and goodwill that no administration in any country has yet been able to muster” (*The Limits of Science* 87). This problem of moral obligation is inseparable from the epistemological crisis modern science created: “But the assumptions of modern science really did pose problems of great severity, and the bulk of Continental philosophy from

Descartes to Hegel consists of more or less desperate attempts to solve those problems without being driven to such unacceptable conclusions as the denial of free will" (Eichner 13). ([back](#))

11. For arguments that find it appropriate and revealing to see Victor Frankenstein as a modern scientist, see Vasbinder, Ziolkowski, Goodall, Stableford, Manson and Stewart, and Marcus. The opposing position is strongly taken by Ketterer in his 1986 review of Vasbinder; Ketterer cites, most importantly, the valuable study by Buchen. And yet I do not hesitate to recommend Buchen, having checked him out, as a source whose positions on Mary Shelley's use of alchemy, despite Ketterer's claims, *fit with ours*. For a bizarre feminist analysis that ends up wishing Victor had used good, pre-modern, eco-friendly "spiritual alchemy" rather than bad, modern, masculinist "empirical alchemy," see Roberts (69). ([back](#))

12. I know that Vasbinder's book was subjected to a harsh review by David Ketterer. While agreeing with Ketterer that Vasbinder's footnotes are an embarrassment, I would suggest that it does not follow from the preponderance of alchemical imagery in the text (the basis of Ketterer's objections) that Victor's performed experiments taken as actantial data may not be accurately described as scientific in a decisively modern sense. Our position differentiates alchemical ambitions from modern scientific techniques. The description of Victor's technique as modern is essential, because otherwise his "science" is not theoretically open to democratic exchange; without that openness, it loses almost all of its power to horrify. A whole essay could be written on Victor's relationship with his "instruments." The potential horror in modern science derives partly from the fact that its power is *not* capricious and unpredictable in the way of magic or occult practice. ([back](#))

13. I am not proposing that *all science* is experimental science; that would be a crude oversimplification. But the link between experimental science and modern science nonetheless holds, even for such a brilliant philosopher of science as Nicholas Rescher: "The impetus to augment our science demands an unremitting and unending effort to enlarge the domain of effective experimental intervention. For only by operating under new and heretofore inaccessible conditions of observational or experimental systematization—attaining ever more extreme temperature, pressure, particle velocity, field strength, and so on—can we bring new grist to our scientific mill" (168). For other comments justifying our claim that modern science is experimental science to a significant extent, see also Carnap (176); Ziman (31); Rabinow (112). ([back](#))

14. I owe this analogy between the Monster's reality and the reality of Claudius' villainy to an illuminating analysis of *Frankenstein* by Richard van Oort, who has explored the ways the novel displays in particularly acute form the victimary rhetoric and self-centralizing paradoxes of the Romantic esthetic. Van Oort, rather in the way that Charles Schug does in a related but not anthropological context, emphasizes the formal feature of the concentric

narrative circles in the text, that organization foregrounding the intended comparison between the young sailor Walton, the wasted elderly Victor, and the outcast Monster himself as they compete for victimary centrality in their tellings of their respective tales of woe. The merit of his work is that it both elucidates the implicit anthropology in Mary Shelley's text and refuses, unlike most *doppelganger* readings, to reduce the text to a symptom of her personal psychological experience, however exemplary that experience might be for particular theoretical agendas (historical-materialist Marxian, Freudian, feminist, ecocritical, market-hating utopianist). Meanwhile, and however, inasmuch as van Oort follows the path of the *doppelganger* myth by moving toward a certain *dissolving* of the *literal* difference between Victor and the Monster, as that difference is constituted inside the world of the text, his interpretation foregrounds the form of the novel at the expense of its content. My approach differs from his by trying to specify the novel's mythic *content* from the point of view of generative anthropology. ([back](#))

15. I concede also that the Monster's literary education is rigged. Any pupil whose elementary reading is a rucksack stocked with Plutarch's *Lives*, Goethe's *The Sorrows of Young Werther*, and Milton's *Paradise Lost* (whose Satan provided to the English romantics a model of victimary rhetoric on a truly cosmic scale), and whose playtime stories consist of the weepy tales of persecution told by the inhabitants of the isolated country cottage through the pigsty walls of which the Creature learns language by observation and osmosis—any such pupil must turn out to be the “hopeless romantic” that the Monster is. ([back](#))

16. The argument would go like this: the Monster's resentment of the human society that excludes him is eternally and violently nourished by the barrier of that ugliness, to such an extent that the ugliness appears to be an “excuse” and invites us to question its ontological import: that is, the Monster and Victor *both* are masters of self-excusing self-pity. The “ugliness” in this sense may be interpreted as just another aspect of Victor's fantasy: he has found a way to let even his monster off the moral hook, presumably in gratitude for the monster's having done his dirty work of fratricide, patricide, fiancée disposal and the like. ([back](#))

17. The anthropological exemplariness of *Frankenstein* as romantic text is revealed by Richard van Oort's interpretation of the novel (see note 15). ([back](#))

18. I do not deny the intimacy of the interactions. I insist only that dissolving intimacy into inseparability entails a loss of significant content not worth the price of formal superiority to (and indifference toward) the text's implications respecting modern science. ([back](#))

19. From Gans' *Science and Faith*, the section on “secondary revelation”: “revelation is a new divine reply to human questions that had previously gone unanswered. The individual must discover this reply as a truth revealed to him alone before daring to test it in dialogue

with those who may violently condemn his attempt. Revelation provides its recipient with the certitude without which he would not have the courage to test his new intuition in practice” (38–39). ([back](#))

20. A quick elaboration of this polar tension: originary science “creates” an ecologically successful humanity by giving us knowledge of the natural world we need to survive in material terms; mad science threatens to destroy the communal basis of ecological survival, not primarily by destroying the ecosphere (as our environmentalist friends would have it) but by destroying human community, the moral unity of which is itself the originary basis of *ideal* ecological “prudence”: the prudence of minimizing desacralization while maximizing exchangeability. This prudence is an ideal, not a goal. Just as “perfected science” can be pursued only as an ideal (and must be pursued as such), but not be pursued as a goal (see Rescher 160), so for ecological “harmony”: it must be our ideal, but it cannot be a goal. This is to imply that the victimary myth which anthropomorphizes the innocent ecosphere only distracts us (by increasing, not deferring resentments) from the political sphere in which the ethical pursuit of ecological survival ought to be conducted. ([back](#))

21. The calculation of risk, even when such a calculation is performed in the interest of self-preservation, remains a moral act at least inasmuch as it assumes the potential danger to *oneself* of the response of other humans in the community who perceive (in a way the solitary risk-taker does not) the risk as one that might endanger *them*. Part of the irrationalism in the “mad” science of Victor’s creation of the Monster, an irrationalism we will balance against the stodgy utilitarianism of his decision *not* to create a mate for the Monster in Part Three, consists in the total lack of calculation that would have led Victor toward a prudent regard of his own self-interest during the prosecution of his first big experiment. This lack should strike us, get our attention, even regardless of the misery that his failure to calculate causes the Monster. To this extent, the psychic madness of Victor is a valuable topic for reflection. ([back](#))

22. Again, this is the God of the mechanical universe that Hans Eichner analyses; it is the God in tension with the modern science of 1650-1920, which Stephen Toulmin claims must be superseded by postmodern science. Errol E. Harris is eloquent in his excoriations: “The new scientific dispensation was, therefore, as much a revolution in theology as in science, replacing theism by deism—the belief in a God beyond nature. But such a God could not be infinite (nor . . . could he intelligibly become incarnate) and is not all pervasive. . . . In the mechanical world there can be no divine activity without divine self-contradiction, and God can be omnipotent, if at all, only with the qualification of self-limitation to allow unimpeded action to the laws of nature” (*Revelation through Reason* 32); “the idea of God that is being attacked [by the logical positivists] is of a kind of omnipresent ghost, who arranges natural objects and directs natural events independently or in spite of scientific laws, or some supernatural potentate able to punish men when they sin and reward them when they are threatened and comfort them when they are in distress. And this is a conception of God . . .

[that] cannot nowadays be defended, least of all by appeal to factual evidence. Belief in such a God today is a form of superstition and idolatry. . . . But it does not follow that there is no other way of conceiving God more acceptable to modern minds” (47). ([back](#))

23. The philosopher of science Nicholas Rescher argues that such tyranny is quite misplaced, at least inasmuch as he suggests that the recognition of the human fallibility of attempts to grasp the cosmological truth should be respected as a principle: “The cognitive situation of natural science invites description in theological terms. The ambiguity of the human condition is only too manifest here. We cannot expect ever to reach a position of definitive finality in this imperfect dispensation: we do have ‘knowledge’ of sorts, but it is manifestly imperfect. . . . We yearn for absolutes but have to settle for plausibilities; we desire what is definitively correct but have to settle for conjectures and estimates” (157). The mad scientist would *deny* all this, refuse to believe it. ([back](#))

24. “The romantic, whether of the right or the left . . . is in principle hostile to the market. But the romantic lifestyle, with the predictable exception of the few radicals, suicides, and the like who took its precepts too literally, is in fact a preparation for life and career in market society. This is the constitutive hypocrisy of romanticism” (OT 166). Richard van Oort’s formalist appreciation of *Frankenstein* correctly reminds us of the reiteration of this lesson in the text: young Walton is the only one of the three narrators to give up on the quest for absolute selfhood and return home to “get a real job,” as they say. Victor and the Monster belong perhaps among the “predictable exceptions . . . radicals, suicides, and the like.” ([back](#))

25. In being free (as an economic agent involved with things) only to speak, and to speak only the threat of destruction, the Monster epitomizes the alleged violence of all the most “impious” and desacralizing, community-threatening scientific productions that have been reluctantly introduced and finally accepted by human societies, from gunpowder to the hydrogen bomb, from vaccinations to fertility drugs, from automobiles to moon crawlers. Paradoxically, he also can be seen to represent himself the typical *victim* of such productions (a paradox we will pursue in Part Three of this study). All these, at first, are seen by the (religious) majority as terribly destructive rather than potentially useful or liberating. ([back](#))

26. A meaningful “no” would be one spoken in the context of a possible “yes.” But it is impossible that the human species would ever accept him; the “yes” is forbidden absolutely from the beginning, and his education amounts, in one way, to little more than the learning of that absolute prohibition. The ugliness of the creature is the most violently graphic way of representing his status as an *artificial* human. ([back](#))

27. Victor to Walton, early in his tale: “when I would account to myself for the birth of that passion, which afterwards ruled my destiny, I find it arise, like a mountain river, from

ignoble and almost forgotten sources; but, swelling as it proceeded, it became the torrent which, in its course, has swept away all my hopes and joys" (1.1.67; emphasis added). ([back](#))

28. My source for these assertions is the philosophical treatment of the ethics of secrecy by Bok (1982). ([back](#))

29. In her failure to procreate, in her timid physical affections never being reciprocated, Elizabeth resembles the monster: like the monster, she is, to Victor, an object rather than an autonomous center whose desires he might respect. His professions of erotic interest in Elizabeth all ring false because they are false. He does not care for her: the fact that he is totally unable to recognize that truth and so excludes it from his self-reporting does not make it any the less true. What do we as readers owe Victor that we should hold back from attributing to him this indifference to "normal" and "healthy" sexual appetite and this lack of self-awareness? One can only make so many excuses for not kissing the girl before the girl recognizes, as Elizabeth herself does, that the boy is simply not interested. Psychoanalytic criticism has done wonders in attributing all sorts of various neuroses and fixations to Victor. I would take the minimal view: Victor's asexuality is a correlate of his amorality, his lack of libido at one with his lack of communally-rooted human desire. ([back](#))

30. "Natural philosophy is the genius that has regulated my fate; I desire therefore in this narration, to state those facts which led to my predilection for that science" (1.1.68). ([back](#))

31. Apart from his father's "sad trash" remark (which I will discuss shortly), we have only these remarks to contradict openly the exaggerated claim of the perfect childhood, a report in which Victor describes a certain awkwardness he felt during his first weeks at the University, his first weeks on his own away from home: "In the university, whither I was going, I must form my own friends, and be my own protector. My life had hitherto been remarkably secluded and domestic, and this had given me an invincible repugnance to new faces" (1.2.74); "I ardently desired the acquisition of knowledge. I had often, when at home, thought it hard to remain during my youth couped up in one place, and *had longed to enter the world, and take my station among human beings*. Now my desires were complied with, and it would, indeed, have been folly to repent" (1.2.74) [emphasis added]. It is strange to notice the applicability of this description to the monster's "longing" for society and the monster's being "couped up" in the pigsty outside the DeLacey cottage. But the above remarks testify to the fact that just as Victor is never quite at ease in private with the sexually predestined Elizabeth (see two notes back on Elizabeth), he is never at ease in public society. If we ignore his professions of feeling and study his behavior, the evidence is telling and the tendencies are predictable: Frankenstein is anti-social, self-isolating, and chronically depressed. There is no compelling sign that he ever really felt any happiness, no matter what he says. ([back](#))

32. One wishes Victor had included in his childhood reading the description of the immortal

Struldbruggs in the third book of Jonathan Swift's *Gulliver's Travels* (181-84); a little exercise of Swiftian anthropological imagination would have quickly revealed the undesirability of bodily immortality; but Victor's problem as a mad scientist is that of the absence of any anthropological imagination. ([back](#))

33. On the alchemists see Vasbinder (47), Graham (73-76), and Haynes (3, 11, 13 among other passages); John Cohen (29-30) identifies Albertus Magnus as medieval maker of robots. W. Somerset Maugham's *The Magician* (1908) is an entertaining novel set in Edwardian England but centered on the disturbing creation of *homunculi* by a charismatic, amoral modern alchemist. ([back](#))

34. And yet it might be merciful of us to propose that there are hints in Victor's confessional discourse of a boy who was in some way curiously vulnerable amidst all this liberty, whose very "liberty" of education left him casting about on his own, the parental provision of such unsigned territory ironically turning out to be an open invitation to the reckless by-production of unintended consequences. If one wishes to impose on his psychology a "forgiving" diagnosis, then I would suggest that there remains a certain quiet sadness, the result of parental neglect that masqueraded as parental leniency, in the center of all the posturing and blustering that composes the character of the adult Victor. (The diagnosis does nothing at all to alleviate the suffering of the Monster, however. Evil with origins explained remains evil.) ([back](#))

35. "Besides, I had a contempt for the uses of modern natural philosophy. It was very different, when the master of the science sought immortality and power; such views, although futile, were grand: but now the scene was changed. The ambition of the inquirer seemed to limit itself to the annihilation of those visions on which my interest in science was chiefly founded. I was required to exchange chimeras of boundless grandeur for realities of little worth" (1.2.75). ([back](#))

36. For a feminist-oriented analysis that links *Frankenstein* explicitly to the masculine hubris of Watson and Crick's published account of their discovery, see Mary Jacobus' spirited polemic, which includes something of an interpretation of Mary Shelley's novel—"Is There a Woman in this Text?" Inasmuch as Jacobus' essay also spurns the hypotheses of Rene Girard, following Toril Moi's invidious misreading of mimetic theory, it provides a textbook case of the obstinacy with which feminist theory insists on an essentialism of "female desire" as transcendently distinct from "male desire." ([back](#))

37. This desired absence of mediation is assimilable to the fantasy of pure spectatorship that accompanies the atheistic scientist's replacing God as the One who stands "outside" Nature, observing it. Stephen Toulmin: "The interpretive standpoint characteristic of the physical sciences in the 'classical' period [of modern science], which lasted from the mid-seventeenth century until around 1920, required scientists to approach the world as pure *spectators*. In

theory, at least, the ideal viewpoint for observing the processes of nature was one that permitted scientists to look on at them and describe them without significantly altering them. Whereas the alchemists had been continually open to the worry that their states of mind might be altering the very phenomena they were happy to control, the 'new philosophers' thought they had hit on a method for obtaining truly objective knowledge of nature which was in no way affected by their own motives and prejudices. Thus the intellectual program of modern science was established, and this dominated the thinking of physical scientists until well into the twentieth century. It was nicely captured in Pierre Simon Laplace's image of the Omniscient Calculator, who looked on at the universe *from outside* and predicted its entire future course as a straightforward exercise in Newtonian mechanics" ("Construal" 96) [the emphases are Toulmin's]. ([back](#))

38. Nicholas Rescher explains how each of five different purely "cognitive content" models for the measurement or secure definition of scientific progress fails to cohere or avoid self-contradiction. And then he concludes: "The progressiveness of science is most strikingly and decisively manifested on its technological side. Science is marked by an ever-expanding predictive and physical control over nature" (39); "From where we stand in the epistemic dispensation, there is no way of attaining a higher vantage-point-no God's eye view for comparison. What we do fortunately have as a common basis across the divides of scientific change is not a higher but rather a lower standpoint: the crude vantage point of ordinary everyday life. No sophisticated complexities are needed to say that one stage in the career of science is superior to another in the launching of rockets and curing colds and exploding bombs" (41); "Once due prominence is given to the factor of *control over nature* in the pre- or subtheoretical construction of this idea, the substantiation of imputations of scientific progress becomes a more manageable project than it could ever be on an internal, content-oriented basis" (42). ([back](#))

39. This "impossible demand" is most familiar to us in the Precautionary Principle, which has all kinds of epistemological and political and pragmatic problems. See the introductory article by Foster et al. ([back](#))

40. Science is an inexhaustible sacrificial victim, a straw man to be set up and shot at by those utopian hoppers who imperiously demand a more "human" world, even as they use "rational"-that is, scientific-criteria when making their demands. As if scientific representation were not a form of human language to respect with (perhaps) a little gratitude. "Look at the statistics!" often prefaces such demands for a more morally perfect world; but the statistical view of nature is a scientific view of nature. What the statistics tell us, again and again, is the hard truth (as Gans has suggested more than once) that morality cannot be made into an ethic. ([back](#))

41. See Rescher 29-42 (or note 38 above). ([back](#))

42. "I doubted at first whether I should attempt the creation of a being like myself or one of simpler organization; but my imagination was too much exalted by my *first* success to permit me to doubt of my ability to give life to an animal as complex and wonderful as man" (1.3.81). "Nor could I consider the magnitude and complexity of my plan as any argument against its impracticability. It was with these feelings that I began the creation of a human being" (1.3.81). ([back](#))

43. Waldman's disparagement of the nonspectacular goals of experimentalism itself reinforces his position as the professor who legitimated Victor's desire to take the alchemists as his models. ([back](#))

44. On this point, see Gans, *Science and Faith* (1981), the chapter titled "The Christian Revelation"-particularly the remarks about the curious absence of the figure of the cross from the blinding light that stops Saul. ([back](#))

45. "When I found so astonishing a power placed within my hands, I hesitated a long time concerning the manner in which I should employ it" (1.3.81); "A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. No father could claim the gratitude of his child so completely as I should deserve theirs" (1.3.82). ([back](#))

46. The *difference* between their ideas and those of the archromantic Rousseau, and Mary Shelley's preference for her parental philosophical models, is worth noticing: "Yet the creature speedily outgrows Rousseau's notion of happiness that arises [primarily] from the satisfaction of physical passions, and his developing moral and intellectual awareness reflects Godwin's and Wollstonecraft's shared emphasis on the formative power of education and circumstances. Moreover, unlike the essentially solitary man in Rousseau's state of nature, Frankenstein's creature *instinctively seeks society*" (Clemit 35) [emphasis added]. ([back](#))

47. We call it a centerless form of knowledge exchange because science is fundamentally democratic in a way religion cannot be, just as market society is democratic in ways ritual society can never be. Spiritual experience and the effects of religious ritual cannot be exchanged in the reliable, verifiable way that experimental results, technical expertise, consumer products and the like can be exchanged. In proportion as religious ritual is "commercialized," it loses its value as enforcer of communal unity. One thinks of those who bemoan the supermarket of "faith communities" which the modern citizen can taste-test, as it were, trying out churches until one finds a church one "likes." Those who bemoan this freedom to shop for religion are accusing the faith-shoppers of only *pretending* to belong to communities: genuine communal unity cannot, in this view, be manufactured or chosen. Also informative is a comparison between the instrumental reliability of scientific knowledge and the "institutional refractoriness" of the esthetic: one difference between science and

pseudo-science is the absence in real science of any such “refractoriness,” as opposed to the predictable “refractoriness” in the debunking tests that expose the embarrassing unreliability of pseudo-science. ([back](#))

48. For a very useful delineation and critique of irrationalism, see Frankel, “The Nature and Sources of Irrationalism”; that which Frankel designates by “irrationalism” seems very close to that which Gans seems to mean when he names “utopian” thinking as something to be avoided. For a standard example of the leftist-anarchist contempt for modern science—the rejection of its epistemological foundations and an unsparing contempt for its institutions—see the sociologist Restivo. It is no coincidence that Restivo cites as an authority Theodore Roszak, whom Frankel takes as a prominent defender of “irrationalism.” ([back](#))

49. By contrast, the brother of Prometheus, Epimetheus, whose name means “afterthought,” is in his closely related myth the blunderer whose *afterthought* registers too late the disaster of the opening of Pandora’s Box. See Peters, *Playing God? Genetic Determinism and Human Freedom* (1997): 8-10. ([back](#))

50. Sylvia Bowerbank tends to make this error in an essay arguing that Victor and the monster are “victims of society.” She must categorize the universal responses as evidence of “prejudice” that could be unlearned: she writes, for example: “Victor shows the same prejudice against ugliness, albeit to a much lesser degree, in his reluctance to work with Professor Krempe” (426). But Mary Shelley is trying with all the information she gives us to make the point that it is not just a “prejudice,” it is an ontological scandal, the result of a mad scientist playing God the creator. Elaine L. Graham invidiously attributes this ontological boundary to a “failure of imagination,” which implies we could somehow be educated out of the visceral response: “The being’s tragedy lies in the abuse of his gentle sensibilities by the *inflexibility and lack of imagination of human culture*, amounting to a powerful indictment of the *inhumanity* of his detractors. Had the creature been willingly assimilated into human society, he could have developed a benign character” (67) [emphasis added]. Theodore Ziolkowski also underestimates the force of the ugliness: “If Victor Frankenstein had not been overcome by his *initial disgust*, if he had responded to his creature with love and understanding, it might have become an instrument of good rather than evil” (43) [emphasis added]. But it is simply a factual error to assert that the “disgust” Victor feels was or could have been only an “initial” response later altered. ([back](#))

51. I part ways with Haynes, however, when she asserts: “Shelley thus suggests that claims of ignorance on the part of scientists for their failure to foresee the consequences of their work are too glib to be credible and cannot be socially acceptable” (97). I am arguing that it is more morally meaningful and revelatory to hold Victor responsible for his willful self-isolation than to hold him responsible for his failure of foresight: the failure to foresee is the result of the isolation, rather than the expression of a *conscious* intention that he registers and represses, later claiming ignorance. ([back](#))

52. Peter Brooks' Freudian, Barthes-influenced formulations, are something like ours here: "He is condemned to the order of words which does not match the order of things, which hasn't produced the desired referent, but rather brought knowledge of the unappeasable lack or difference that defines his monsterism. The godlike science [of human language] itself proves deceptive: his eloquence can achieve no more than a stage of permanently frustrated desire for meaning; his language is metonymic advance without a terminus. The way in which, from out of frustration, he seeks vengeance on Frankenstein, exactly mirrors this situation" ("Godlike" 598). ([back](#))

53. In his excellent analysis of the novel, Charles Schug observes something relevant to this sense of readerly frustration: "with which character [Victor or the Monster] are we to sympathize? It cannot be both . . . yet this is exactly what the novel asks us to do: sympathize with both characters" (613). ([back](#))

54. That is why Victor, like a good materialist who does not believe in God or ghosts, Satan or spirits, writes with complacency: "In my education my father had taken the greatest precautions that my mind should be impressed with no supernatural horrors. I do not even remember to have trembled at a tale of superstition, or to have feared the apparition of a spirit. Darkness had no effect upon my fancy; and a church-yard was to me merely the receptacle of bodies deprived of life, which, from being the seat of beauty and strength, had become food for the worm" (1.3.79). It does not follow from a disbelief in ghosts that a cemetery should be *merely a receptacle of bodies deprived of life*. So much for the pyramids. In any case, Frankenstein's later behavior, in which he calls upon the spirits of his dead family to help him in vengeance, and in which he explicitly dreams of post-mortal reunion with them, indicates the failure of this education to "stick." The one spirit to whom Frankenstein never concedes the least breath of existence is the Holy Spirit, the representative of the God of the Christians. Unable to feel shame, he is unable to owe anything to the God of the Hebrews. See Theodore Ziolkowski's study for a lucid exposition of this retrogression to *pagan* sediment in Victor's spiritual life: "it has not been sufficiently stressed that her [Mary Shelley's] inability to reconcile the conflict inherent in her two sources-between [Greek] pride and [Hebrew] shame in cognition-*produced for the first time that ambivalence toward scientific knowledge that we have come to regard as characteristically modern*" (48) [emphasis added]. ([back](#))

55. Here is the animation scene proper: "It was already one in the morning; the rain pattered dismally against the panes, and my candle was nearly burnt out, when, by the glimmer of the half-extinguished light, I saw the dull yellow eye of the creature open; *it breathed hard, and a convulsive motion agitated its limbs.*

How can I describe my emotions *at this catastrophe*, or how delineate the wretch whom with such infinite pains and care I had endeavoured to form? His limbs were in proportion, and I had selected his features as beautiful. Beautiful!-Great God! His yellow skin scarcely

covered the work of muscles and arteries beneath; his hair was of a lustrous black, and glowing; his teeth of a pearly whiteness; but these luxuriances only formed a more horrid contrast with his watery eyes, that seemed almost of the same colour as the dun white sockets in which they were set, his shriveled complexion, and straight black lips” (1.4.84–85) [emphasis added]. ([back](#))

56. I would argue, therefore, that Elaine L. Graham quite misses this point when she (ironically!) puts the loving God whose existence Victor disproves back into the picture: “In the closing testimony by Walton, Mary Shelley gives the creature a final opportunity to exonerate himself. He makes a powerful plea to be remembered as one more sinned against than sinning, and his words implicitly refute the traditional Augustinian doctrine of original sin. As a being created by a purposeful and loving Creator, rather than a capricious or random power, the creature believes himself to be capable of goodness” (68). Although Elaine L. Graham did not intend the meaning, I would suggest that she has here named Victor Frankenstein a “purposeful and loving Creator.” George Levine’s comment is much more appropriate: “The whole narrative of Frankenstein is, indeed, acted out in the absence of God” (7). ([back](#))

57. I would go so far as to suggest that the way in Shelley’s modern myth that no God intervenes to stop Victor in his tormenting of the creature, is a prophetic intuition of the dehumanizing possibilities of the worst of modern science—atheistic, reductive, obstinately materialist, “hard” science that expels from its considerations that level of being we have identified as the “anthropological.” I hope it is not trivializing of the real human victims of World War II whom we commemorate as best we can to suggest a connection between the revelation of the fictional evil evoked by Frankenstein and the historical revelation implied by the cold hard fact that “no God intervened” or “God did not intervene” to stop the Nazi scientists in their camps or the technologists of Hiroshima and Nagasaki. The mad scientist is a real evil to be feared, not just a fictional one to toy with. The mad scientist wishes to prove beyond a doubt that “God is dead,” but there is no better way to prove the death of God than to despise, disfigure, and annihilate humans whose first memorable idea was the name-of-God. The serenely aloof atheistic scientist who proceeds as if humanity is naught is indulging in the fantasy that God is already dead. But like the black plague victim in *Monty Python and the Holy Grail*, God is always “not dead yet.” Nor will God ever have died as long as humans continue to remember the idea of God. This will always be a scandal to the modern science that hates to acknowledge its origin in anthropological science, in religion (specifically, in ordinary science). ([back](#))

58. At his most candid, in his death-bed speech, Victor aptly compares himself to Milton’s Satan: “All my speculations and hopes are as nothing; and, like the archangel who aspired to omnipotence, I am chained in eternal hell. My imagination was vivid, yet my powers of analysis and application were intense; by the union of these qualities I conceived the idea, and executed the creation of a man. Even now I cannot recollect, without passion, my

reveries while the work was incomplete. I trod heaven in my thoughts, now exulting in my powers, now burning with the idea of their effects" (233). These are memories, without question, of the good old days of being free to play God, not yet undeluded as to its impossibility. ([back](#))

59. For a mimetic critique of the "imperious ecological Yahweh" (the phrase is mine) the reader is directed to Rene Girard's *Job: The Victim of His People* (trans. 1987). For example: "Like the prologue and the conclusion, the only purpose to the speeches of this God is to eliminate the essential and make the Dialogues unreadable, to transform the book of Job into a ludicrous anecdote recited by everyone" (142); "In place of the celestial armies, only Behemoth and Leviathan remain. Only this God's taste for monstrous force still suggests indirectly what was too naively demonstrated by the torment of a single victim surrounded by three divine warriors. . . . What neither the three friends, nor the fourth, were able to obtain from Job is achieved by this version of *the God of persecution recycled into an ecological and providential God*" (143) [emphasis added]. ([back](#))

60. Witness the monster's following cries, made in Walton's presence: "'Oh, Frankenstein! generous and self-devoted being! What does it avail that I now ask thee to pardon me? I, who irretrievably destroyed thee by destroying all thou lovedst'" (241); and "'I have devoted my creator, *the select specimen of all that is worthy of love and admiration among men*, to misery; I have pursued him even to that irremediable ruin. There he lies, white and cold in death'" (243) [emphasis added]. ([back](#))

61. The famous "naturalistic fallacy," itself to some extent a consequence of modern science in its more aggressively materialist guises, inspires the following remarks from the philosopher Bernard Williams: "There are genuine ethical, and ultimately metaphysical, concerns underlying the worry about *ought* and *is* and the naturalistic fallacy. At the heart of them is an idea that our values are not 'in the world,' that a properly untendentious description of the world would not mention any values, that our values are in some sense imposed or projected onto our surroundings. This discovery, if that is what it is, can be met with despair, as can the loss of a teleologically significant world. *But it can also be seen as a liberation*, and a radical form of freedom may be found in the fact that we cannot be forced by the world to accept one set of values rather than another" (*Ethics* 128). ([back](#))

62. I have in mind the following thoughts of Gans: "The principal historical condition for this thematization [of the unconscious] is the decline of the noncirculating transcendence of religion, not so much as a practice—although this has followed—but as an epistemology. . . . The residue of the immortal soul unrecognized by metaphysics provides the first content for the unconscious in the form of the romantic's 'irrational' aspirations to centrality. The loss of divine mediation is a preparation for the understanding of human mediation" (*Signs of Paradox* 125). ([back](#))

63. See Gans's remarks on the name-of-God in "The Two Varieties of Truth" (*Signs of Paradox* 52-54). ([back](#))

64. Bernard Williams: "'Humanity is, of course, a name not merely for a species but for a quality, and it may be that the deepest contemporary reasons for distrusting a humanistic account of the human sciences are associated with a distrust of that quality, with despair for its prospects, or, quite often, with a hatred of it. . . . But the more that cultural diversity within the human race declines, and the more the world as a whole is shaped by structures characteristic of modernity, the more we need not to forget but to remind ourselves what a human life is, has been, can be. This requires a proper understanding of the human sciences, and that requires us to take seriously humanity, in both senses of the term. It also helps us to do so" ("Prologue: Making Sense" 22). Generative anthropology would concur that a *proper* understanding of the human sciences *helps us* to take seriously "humanity" both as species and as quality. The presence of "quality" is that which can only be thought anthropologically—not biologically, chemically, physically, or purely materially. Its presence asks us to engage in the minimal science of originary thinking. ([back](#))

Works Cited

Bok, Sissela. *Secrets: On the Ethics of Concealment and Revelation*. New York: Pantheon, 1982.

Bowerbank, Sylvia. "The Social Order vs. the Wretch: Mary Shelley's Contradictory-Mindedness in *Frankenstein*." *English Literary History* 46 (1979): 418-31.

Bronte, Emily. 1847. *Wuthering Heights*. Ed. Ian Jack. Oxford: U P, 1981.

Brooke, John Hedley. *Science and Religion: Some Historical Perspectives*. Cambridge History of Science. Series ed. George Basalla. Cambridge: U P, 1991.

Brooks, Peter. "Godlike Science / Unhallowed Arts: Language and Monstrosity in *Frankenstein*." *New Literary History* 9/3 (Spring 1978): 591-605.

———. *Reading for the Plot: Design and Intention in Narrative*. New York: Knopf, 1984.

Buchen, Irving. "Frankenstein and the Alchemy of Creation and Evolution." *Wordsworth Circle* 8/2 (Spring 1977): 103-112.

Butler, Marilyn. "Frankenstein and Radical Science." 1993. Rpt. in *Making Humans: Frankenstein and The Island of Dr. Moreau*. Boston: Houghton Mifflin, 2003. 307-19.

Capek, Karel. 1921. *R.U.R. (Rossum's Universal Robots)*. Trans. Claudia Novack. London: Penguin, 2004.

- Carnap, Rudolf. "The Nature of Theories." Klemke *et al.* (1988), 162-77.
- Clayton, Jay. "Frankenstein's Futurity: Replicants and Robots." 84-99. Schor (2003): 84-99.
- Clemit, Pamela. "Frankenstein, Matilda, and the Legacies of Mary Wollstonecraft." Schor (2003), 26-44.
- Cohen, Eric. "The Permanent Limits of Modern Science: From Birth to Death." *Social Research* 73/2 (Summer 2006): 785-204.
- Cohen, John. *Human Robots in Myth and Science*. London: George Allen and Unwin, 1966.
- Derrida, Jacques. "Edmond Jabes and the Question of the Book." *Writing and Difference*. Trans. Alan Bass. Chicago: U P, 1978.
- Dickens, Charles. 1861. *Great Expectations*. Ed. Angus Calder. London: Penguin, 1965.
- Dupre, John. *Darwin's Legacy: What Evolution Means Today*. Oxford: U P, 2003.
- Dutoit, Thomas. "Re-specting the Face as the Moral (of) Fiction in Mary Shelley's Frankenstein." *Modern Language Notes* 109/5 (Dec. 1994): 847-91.
- Eichner, Hans. "The Rise of Modern Science and the Genesis of Romanticism." *PMLA* 97 (1982): 8-30.
- Eliot, George. 1861. *Silas Marner: The Weaver of Raveloe*. Ed. David Carrol. London: Penguin, 1996.
- Flahaut, Francois. *Malice*. Trans. Liz Heron. *Phronesis*. Series. ed. Ernesto Laclau and Chantal Mouffe. London and New York: Verso, 2003. Orig. *La mechancete* (1998).
- Fleming, Chris and John O'Carrol. "Romanticism." *Anthropoetics: The Electronic Journal of Generative Anthropology* 11/1 (Spring-Summer 2005). Available <
<http://anthropoetics.ucla.edu/ap1101.romantic.htm>>.
- Foster, Kenneth R., et al. "Science and the Precautionary Principle." *Science* May 12, 2000: 979-981.
- Frankel, Charles. "The Nature and Sources of Irrationalism." *Science* 180 [no. 4089] (June 1, 1973): 727-31.
- Frye, Northrop. *Anatomy of Criticism: Four Essays*. Princeton: U P, 1957.
- Fuller, Steve. *Kuhn vs. Popper: The Struggle for the Soul of Science*. Cambridge: Ikon

Books, 2003.

Gans, Eric. *The End of Culture: Toward a Generative Anthropology*. Berkeley: U Cal P, 1985.

———. *Originary Thinking: Elements of Generative Anthropology*. Stanford: U P, 1993.

———. *Science and Faith: The Anthropology of Revelation*. Totowa, N.J.: Rowman and Littlefield, 1990.

———. *Signs of Paradox: Irony, Resentment, and Other Mimetic Structures*. Stanford: U P, 1997.

Gigante, Denise. "Facing the Ugly: The Case of Frankenstein." *English Literary History* 67/2 (2000): 565-87.

Girard, Rene. *Job: the Victim of His People*. Trans. Yvonne Freccero. Stanford: U P, 1987.

———. *Things Hidden Since the Foundation of the World*. Trans. Stephen Bann and Michael Mettter. Stanford U P, 1987.

Goodall, Jane. "Frankenstein and the Reprobate's Conscience." *Studies in the Novel* 31/1 (Spring 1999): 19-40.

Graham, Elaine L. *Representations of the Post/Human: Monsters, Aliens and Others in Popular Culture*. New Brunswick, N.J.: Rutgers U P, 2002.

Hahn, Roger. "The Meaning of the Mechanistic Age." Sheehan and Sosna (1991), 142-57.

Harris, Errol E. *Revelation through Reason: Religion in the Light of Philosophy*. New Haven: Yale U P, 1958.

Haught, John F. *Is Nature Enough? Meaning and Truth in the Age of Science*. Cambridge: U P, 2006.

Haynes, Roslynn D. *From Faust to Strangelove: Representations of the Scientist in Western Literature*. Baltimore: Johns Hopkins U P, 1994.

Jacobus, Mary. "Is There a Woman in This Text?" *New Literary History* 14/1 (1982): 117-54.

Juengel, Scott. "Face, Figure, Physiognomics: Mary Shelley's Frankenstein and the Moving Image." *Novel* 33/3 (Summer 2000): 353-76.

Ketterer, David. *Frankenstein's Creation: The Book, The Monster, and Human Reality*. English Literary Studies no. 16. Series ed. Samuel L. Macey. Victoria, B.C.: Department of

English at U Victoria, 1979.

———. "Alchemy and Science in *Frankenstein*." Review of *Scientific Attitudes in Mary Shelley's Frankenstein* by Samuel Holmes Vasbinder. *Science Fiction Studies* 13/3 [no. 40] Nov. 1986. Online. Science Fiction Studies homepage. Available <www.depauw.edu/sfs/birs/bir40.htm>.

Kincaid, James R. "'Words Cannot Express': Frankenstein's Tripping on the Tongue." *Novel* 24/1 (Autumn 1990): 26-47.

Klemke, E.D., Robert Hollinger, and A. David Kline, eds. *Introductory Readings in the Philosophy of Science*. Rev. ed. Buffalo: Prometheus Books, 1988.

Levine, George. "The Ambiguous Heritage of Frankenstein." Levine and Knoepflmacher (1979): 3-30.

Levine, George, and U. C. Knoepflmacher, eds. *The Endurance of Frankenstein: Essays on Mary Shelley's Novel*. Berkeley: U California P, 1979.

Lipking, Laurence. "Frankenstein, the True Story; or, Rousseau Judges Jean-Jacques." *Frankenstein*. Ed. J. Paul Hunter. New York: Norton, 1996. 313-31.

Livingston, Paisley. *Literary Knowledge: Humanistic Inquiry and the Philosophy of Science*. Ithaca and London: Cornell U P, 1988.

Marcus, Steven. "Frankenstein: Myths of Scientific and Medical Knowledge and Stories of Human Relations." *Southern Review* 38.1 (2002): 188-201.

Manson, Michael and Robert Scott Stewart. "Heroes and Hideousness: *Frankenstein* and Failed Unity." *SubStance* 22/ 2-3 (1993): 228-42.

Maugham, W. Somerset. *The Magician*. 1908. Rpt. New York: Penguin, 1978.

Medawar, Peter. *The Limits of Science*. New York: Harper and Row, 1984.

Mellor, Anne K. "Making a 'Monster': An Introduction to Frankenstein." Schor (2003): 9-25.

Morgenthau, Hans J. "Modern Science and Political Power." *Columbia Law Review* 64/8 (Dec. 1964): 1386-1409.

Oort, Richard van. "Mary Shelley's Literary Anthropology." [Forthcoming: collection ed. Alex Dyck.]

Peters, Ted. *Playing God? Genetic Determinism and Human Freedom*. New York and

London: Routledge, 1997.

Rabinow, Paul. "Life Sciences: Discontents and Consolations." *Is Human Nature Obsolete? Genetics, Bioengineering, and the Future of the Human Condition*.

Ed. Harold W. Baillie and Timonty K. Casey. *Basic Bioethics*. Series. Ed. Glenn McGee and Arthur Caplan. Cambridge and London: MIT Press, 2005. 99-121.

Rescher, Nicholas. *The Limits of Science*. Rev. ed. Pittsburgh: U Pittsburgh P, 1999.

Reiger, James. "Dr. Polidoria and the Genesis of *Frankenstein*." *Studies in English Literature* 3/4 (Autumn 1963): 461-72.

Restivo, Sal. "Modern Science as a Social Problem." *Social Problems* 35/3 (June 1988): 206-225.

Roberts, Marie Mulvey. "The Male Scientist, the Man-Midwife, and Female Monster: Appropriation and Transmutation in *Frankenstein*." *A Question of Identity: Women, Science and Literature*. Ed. Marina Benjamin. New Brunswick, N. J.: Rutgers U P, 1993. 59-73.

Schor, Esther, ed. *The Cambridge Companion to Mary Shelley*. Cambridge: U P, 2003.

———. "Frankenstein and Film." Schor (2003): 63-83.

Schug, Charles. "The Romantic Form of Mary Shelley's *Frankenstein*." *Studies in English Literature* 17/4 (Autumn 1997): 607-19.

Sheehan, James J., and Morton Sosna, eds. *The Boundaries of Humanity: Humans, Animals, Machines*. Berkeley: U California P, 1991.

Sheehan, James J. "Coda." Sheehan and Sosna (1991), 259-65.

Shelley, Mary. 1818. *Frankenstein: or, the Modern Prometheus. The Original 1818 Text*. Ed. D. L. MacDonald and Kathleen Scherf. 2nd. ed. Peterborough, Ontario: Broadview Press, 1999.

Sherwin, Paul. "Frankenstein: Creation as Catastrophe." *PMLA* 96/5 (Oct. 1981): 883-903.

Small, Christopher. *Ariel Like A Harpy: Shelley, Mary, and Frankenstein*. London: Victor Gollancz, 1972.

Stableford, Brian. "Frankenstein and the Origins of Science Fiction." *Anticipations: Essays on Early Science Fiction and Its Precursors*. Ed. David Seed. Liverpool: U P, 1995. 46-57.

Stempel, Daniel. "Angels of Reason: Science and Myth in the Enlightenment." *Journal of the History of Ideas* 36/1 (1975): 63-78.

Sterne, Laurence. 1759-1767. *The Life and Opinions of Tristram Shandy, Gentleman*. Ed. Ian Campbell Ross. Oxford: U P, 1983.

Swift, Jonathan. 1722. *Gulliver's Travels*. Ed. Robert A. Greenberg. Norton Critical Editions. New York: Norton, 1970.

Toulmin, Stephen. "The Construal of Reality: Criticism in Modern and Postmodern Science." *Critical Inquiry* 9/1 (Sept. 1983): 93-111.

———. "Pluralism and Responsibility in Post-modern Science." *Science, Technology, and Human Values* 10/1 (Winter 1985): 28-37.

Vasbinder, Samuel Holmes. *Scientific Attitudes in Mary Shelley's Frankenstein*. Studies in Speculative Fiction no. 8. Series ed. Robert Scholes. Ann Arbor, Michigan: UMI Research Press, 1984.

Weisenfarth, Joseph. *Gothic Manners and the Classic English Novel*. Madison: U Wisconsin P, 1988.

Williams, Bernard. *Ethics and the Limits of Philosophy*. Cambridge, Mass.: Harvard U P, 1985.

———. "Prologue: Making Sense of Humanity." Sheehan and Sosna (1991), 13-23.

Williams, John. *Mary Shelley: A Literary Life*. Literary Lives [series.] Ed. Richard Dutton. Houndmills, Basingstoke and London: Macmillan, 2000.

Ziman, John. "What is Science?" Klemke et al. (1988), 28-33.

Ziolkowski, Theodore. "Science, Frankenstein, and Myth." *Sewanee Review* 89 (1981): 34-56.

Filmography

The Evil of Frankenstein. UK, 1964. Dir. Terence Fisher. Str. Peter Cushing.

Frankenstein. USA, 1931. Dir. James Whale. Str. Boris Karloff.

Frankenstein. USA, 2004. Dir. Kevin Connor. Pro. Hallmark Hall of Fame.

The Island. USA, 2005. Dir. Michael Bay. Str. Ewen MacGregor, Scarlett Johansen, Sean

Behn.

Mary Shelley's Frankenstein. UK, 1994. Dir. Kenneth Branagh. Str. Kenneth Branagh, Robert DeNiro, Helena Bonham Carter.

The Revenge of Frankenstein. UK, 1958. Dir. Terence Fisher. Str. Peter Cushing.