REVIEWS

Zakiya Hanafi, *The Monster in the Machine*: Magic, Medicine, and the Marvelous in the Time of the Scientific Revolution (Durham: Duke University Press 2000) 272 pp.

A study of Italian conceptualizations of monsters between the late sixteenth and early eighteenth centuries, *The Monster in the Machine* investigates what caused the disappearance of the sacred monster during this period and in what new forms monstrosity emerged as Scientific Revolution cosmologies became increasingly secularized. Zakiya Hanafi concludes that the monster became mechanized and that, as theories of the human body became increasingly technological during the advent of modern medicine, the monster simultaneously became internalized in a way that presaged postmodern ideas. Finally, she discusses the ways in which discourse itself during the period became monstrous through the use of complex literary conceits. Wonderfully dense and highly connective, *The Monster in the Machine* is a complex, provocative, and masterfully written piece of scholarship that rewards careful attention.

In laying the groundwork for Hanafi's study, the first chapter, entitled "The Origins of Monsters," begins by explaining the role of the sacred monster in the pre-modern world. "If the barbarian was distinguished by making no sense, or nonsense," she writes,

> the monster, on the other hand, was distinguished by making several senses: by providing an oppositional corporeal limit to human definition; by eroding the strong conceptual differentiation between man and beast, man and demon, or man and god, pointing to pollution, transgression, a breakdown in social order; and by bearing a sign of warning from the forces of the sacred. (3)

In this section, she also outlines the major foundational texts of teratology—Aristotle's *On the Generation of Animals*, Cicero's *De divinatione*, Pliny's *Naturalis Historia*, and Augustine's *City of God*—and asserts that they initiate the "scientific" tradition, the "prodigy" tradition, and the "wonders of nature (or God)" tradition, respectively. She concludes by commenting on the relativity of monstrosity, an important premise of her work, and therefore urges her readers to consider monstrosity "not as a thematic topic or as a psychological manifestation of some primal fear but rather as an 'ideological cluster,' as an entity constructed and represented within a social group" (14).

In the two following chapters, "Monstrous Matter" and "Monstrous Machines," Hanafi traces the shift from locating monsters in the natural world (God's Creation) to the mechanical world—man's creation. She begins this exploration by discussing the role of gardens in bringing the monster from the natural world into the scientific realm of the operating theater, in particular through the dissection of a double-bodied girl in the Orti Oricellai or Oricellari of the Rucellai family in 1536. This description is particularly interesting for its explication of how an attempt to clinically describe the deformed child results in chimerical prose combining scientific and poetic approaches, a point that leads Hanafi to a survey of the form and content of early modern Italian teratology. In that overview, Hanafi reviews the treatises of Fortunio Liceti, Giambattista della Porta's *Magia Naturalis*, and (in an unfortunately cursory fashion) contemporary demonology texts.

Upon the basis of this investigation, Hanafi concludes that the sacred monster did not disappear in early modernity, but was instead relocated in machines and automatons, noting that "from the earliest written records to present day, a necessary condition for defining a sacred monster is *that which is inanimate yet moves of its own accord*" (54). In order to demonstrate this transition, she discusses the Renaissance idea that women could produce monstrous children by focusing on inappropriate objects during pregnancy or that, conversely, they might produce ideal children if tutored by men of science to concentrate on beautiful statues or the portraits of heroes. She also investigates early modern Italian museums, where the monstrous and the technical were displayed together and slippages between those categories became visible in objects such as machines that made onlookers appear monstrous, fantastic automatons, and microscopes that revealed tiny monsters residing in such quotidian matter as water and blood.

Hanafi argues that other vital slippages begin to emerge during this period—those between automatons and demons and automatons and their artificers. The collapsing of these boundaries, she notes, threatens the breakdown of both cosmic and social orders, particularly as "technology becomes more autonomous [and] humans assume a diminishing role in controlling and directing their operations.

> Machines break free of our will; in return, we are liberated from supervising them. The machine gains autonomy as humans relinquish it, but, at the same time, we become more dependent on them. The terms of the reciprocity become clear. (94)

That is, the machines become more like people and, as a result, the

normal master-servant paradigm between human artificers and their creations becomes either less polarized or even possibly re-polarized in frightening ways.

This is particularly true, she asserts, because Renaissance medical philosophy in the wake of William Harvey's discoveries concerning the circulation of blood and René Descartes' *Discourse on Method* further closed the gap between automatons and humans by analogizing bodily processes with technological ones. Thus, as machines became more like humans, humans became more like machines. In her chapter on "Medicine and the Mechanized Body," Hanafi begins by discussing early modern physiognomy and its obsession with the fine line dividing humans and animals. While physiognomy dealt with the fear that humans might degenerate into beasts, other anatomical sciences were leading the way to modern medicine, which posits that humans are "nothing more than complex machines mysteriously endowed with consciousness," an outlook that exacerbates humanity's fear of becoming indistinguishable from its mechanical creations (120). Hanafi traces the germination of this idea through the work of Harvey and Descartes, but argues that Giovanni Borelli was responsible for "the advent of the machine-body" during the latter half of the seventeenth century (129).

Chapter 5, focused on "Vico's Monstrous Body," is offered "both as a meditation on monstrosity during the birth of Enlightenment thinking and as a modest contribution to the vast and expert field of Vico scholarship" (140). While it does indeed achieve both goals admirably, this section of Hanafi's book is unfortunately less concise than its predecessors and at times threatens to divorce it from them. She first discusses Giambattista Vico's "transformation of *conatus*, a term used in the physical sciences to describe the principle of motion, into a metaphysical concept that serves as the intermediary between matter and spirit and likewise between human will and Divine Will" (137). This recasting allowed Vico to embrace the new mechanistic view of anatomy without committing the heresy of denying human imagination or free will. In an innovative move, Hanafi then investigates Vico's commentary about his precarious health—including his belief that his soul and body were incompatible—in order to consider how his monstrously hybridized self-concept affected his work. She focuses on Vico's eulogy for Angiola Cimini, his theories of *conatus* in his *Liber metaphysicus*, and his explanation of the Biblical giants in his *New Science* as examples of how his ideas advocate the possibility for and necessity of "taming the beast within"—adjusting the body so as to bring it in

line with the soul through the exertion of will. Hanafi closes the chapter with a fascinating explication of the myth of Hercules, whom Vico posits as the founder of civilized humanity, a liminal figure on the threshold of civilization and "the slayer of monsters in two senses: he cultivated the land, and he cultivated his humanity" (183).

The final chapter, "Monstrous Metaphor," brings together a number of strands from the preceding ones in its consideration of how contemporary ideas about monstrosity influenced early modern Italian literary composition, particularly as exhibited in the "preachable conceits" of such seventeenth-century Jesuit preachers as Emanuele Tesauro. Hanafi opens this topic by discussing the influential Aristotelian connection between wonder, desire, and learning, a linkage important both to Matteo Perigrini's discussions of the dangers of metaphor in *Della Acutezze* and Tesauro's theories of composition. Both writers explicitly connect metaphors and monsters—for example, Tesauro refers to monsters as "Nature's witticisms" (203). However, Perigrini focuses on the threats he believes metaphors pose as figures of speech that can become mere entertainments with questionable social propriety, their ability to stupefy listeners, and their tendency to bring attention to the genius of their creator rather than to their own veracity. Tesauro, on the other hand, is more willing to embrace such literary monstrosities because he asserts that the wonder they produce leads to a virtuous desire for knowledge.

Hanafi uses one of Tesauro's own sermons and the theories of Max Horkheimer and Theodor Adorno in their *Dialectic of Enlightenment* as a point of departure for a discussion of both metaphor and author as sirens who, like all monsters, threaten to erase distinctions between the self and the other. She concludes her work by observing that "the truth is, there never really is a clear demarcation between subject and object" and that

> The secret desire to usurp that place of monstrosity, to become the admired object, is part of the game we play "of holding the I together" by imagining its disappearance. A sort of 'fort-da' game we play with our civilized selves (217).

Indeed, in her "Afterword," Hanafi underscores this point in noting that "these monsters are all of our own creation and fashioned very much in our own image" and urging that we "love our monsters as we love ourselves" (218). Even the footnotes to this provocative study are frequently of high interest. For example, in an aside about her exploration

of Renaissance treatises on monsters, Hanafi notes that "there is not a single treatise on monsters written by a woman, from any epoch, of which I am aware. This fact in itself would make an interesting topic of speculation" (223). Apart from providing a very suggestive observation, this comment is reflective of the fact that, though *The Monster in the Machine* is not primarily a feminist project, it does take into account in particularly fruitful ways the long-standing associations between women and monstrosity.

In her acknowledgments, Hanafi notes that the creation of this study has "spanned a decade of [her] life," a fact that is reflected both in the book's depth and its breadth (xiii). Appropriately complex in its discussion of the connections between humanity, monstrosity, divinity, technology, and textual creation in early modern Italy, *The Monster in the Machine* nevertheless manages to maintain an admirable level of lucidity and flair that makes it a valuable volume for non-specialists as well as for experts. Thus, Hanafi herself, like Tesauro before her, becomes a kind of siren who induces wonder at her ingenuity. However, she also manages to avoid the dangers outlined by Peregrini and lead her readers toward a clearer understanding not only of how monstrosity was conceived in early modern Italy, but also of how such ideas continue to impact political, scientific, and artistic thought.

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