
REVIEWS

Milton and the New Scientific Age: Poetry, Science, Fiction

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Catherine Gimelli Martin's previous scholarship has illuminated Milton's poetry by establishing connections to the thought of Francis Bacon and to the larger field of early modern science. In editing this volume, she has brilliantly advanced that project. The diversity of the assembled essays is evidence of the extraordinary richness of the topic. It is after all not so much a single topic as a set of related ones, and this volume takes up an enormous range of issues including experimental method, astronomy, cosmology, chemistry, and medicine. One effect of reading the collection all the way through—which means traveling down a succession of different, sometimes intersecting, pathways through early modern intellectual life—is a grateful, excited sense of how much ground remains to be covered.

In Part 1, “Bacon and the Royal Society Baconians,” Martin and Pavneet Aulakh investigate different aspects of Milton's Baconian inheritance. Martin's essay brings this issue into focus by drawing a careful contrast between *Paradise Lost* and Abraham Cowley's *Davideis*. She refutes recent arguments against Milton's Baconianism and shows that Milton's engagement with that tradition is serious, subtle, and committed, though revisionary. Cowley, she argues, is a different story: “more of a theoretical Hobbesian than a ‘true’ Baconian empiricist” (20). Ultimately, the modernity of *Paradise Lost* is credited to its commitment to Baconian curiosity, while Cowley's “sadly uncurious epic” ends up looking like a failure (47). This essay, which ranges widely, exploring other aspects of Milton and Cowley's (and Bacon's) bodies of work, develops a fine-grained account of what it means to be a committed Baconian in the seventeenth century (42). Aulakh's essay is another creative contribution to a Baconian interpretation of Milton's art. It demonstrates the importance in *Paradise Lost* of Bacon's “fundamental redefinition of value”—of, that is, his insistence on the apparently trivial or ordinary as “a sense-enhancing prosthetic useful for contemplating matters high” (53, 55). For both Bacon and Milton, Aulakh successfully demonstrates, it is comparison or similitude that instrumentalizes the mundane as a means of access to otherwise elusive phenomena. Of particular value here is Aulakh's discussion of the connection, in *Paradise Lost*, between the transvaluation of the ordinary world represented by the figure of Christ and the epistemically-oriented elevation of the same in Bacon's experimental program.

Part 2, “Astronomy and Science Fiction,” begins with Rachel Trubowitz's thought-provoking argument that Miltonists should pay more attention to Galileo's mathematics and especially to his

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interest in “the description of a space as a geometry,” or geometrization, which they have mostly neglected in favor of explanations of Galileo's presence in *Paradise Lost* that emphasize his art of observation (80). This is an extremely interesting essay, especially when it explores the value of mathematical concepts in rereading significant moments in Milton's epic, and it makes a strong case for the importance of an understudied topic. I am not persuaded, however, by Trubowitz's claim, which she understandably flags as “controversial,” that Milton “prefers Galileo's mathematics to his experimentalism” (80). She is right to say that “Milton expresses ambivalence about the accuracy of ... telescopic observations,” but only if that ambivalence is understood as inherent, rather than inimical, to the experimentalism he embraces (83). Later in this collection, in fact, Erin Webster offers a more convincing, decidedly experimentalist interpretation of one of the passages Trubowitz uses as evidence that Milton is uncertain about the value of first-hand observation. Trubowitz draws a contrast between Raphael's extraordinary angelic vision and Galileo's “less assured,” lens-assisted inspection of the moon, as if in this passage Milton were finding fault with the telescope, but Webster points out that Milton's formulation is better understood as an affirmative “acknowledgment of the fact that Galileo is here making logical inferences based on experience” as he seeks to envision a lunar geography he cannot quite make out (137). To this I would add that one of the virtues of this book's first section, with its thoughtful investigation of Milton's Baconianism, is its sensitivity to the complexity of the experimentalist project, which is not adequately understood simply as the affirmation of first-hand observation. Incremental slowness is an epistemic virtue, and it is likewise a premise of Baconian experimentalism that perception produces knowledge only if it is properly disciplined: if you do not have the answers you want right away—because, say, you are not an angel—your falling short serves as evidence that you are suitably cautious. Webster makes a similar point about Galileo, for whom, she explains,

an awareness of both the benefits and the limitations of his subjective, embodied perspective is a fundamental part of ... empirical methodology, which takes as a given the perspectival and intellectual distortions inherent to the processes of observation while nevertheless positing that, if corrected (and/or corrected against), these distortions can themselves lead to further insights as to the material constitution of the universe. (138)

One advantage of Webster's interpretation of Milton's intellectual commitments is that it resonates powerfully with the experience of reading *Paradise Lost*, which, as scholars such as Joanna Picciotto have argued, challenges us to envision what cannot be simply or straightforwardly envisioned, elevating first-hand experience to a position of importance without allowing it to be mistaken for a simple means of access to the objects of representation.

The remainder of this second section continues to raise provocative questions about Milton's conception of the cosmos. John Rumrich's essay considers the poet's investment in freedom of will alongside Albert Einstein's seemingly contrary belief in a determinist universe. The neatness of the contrast is deceptive, however; the essay makes these thinkers look more alike than one would expect. For despite Milton's insistence on the indeterminacy of things, which he understands as the basis of human freedom, that commitment is difficult to sustain. Rumrich ponders Milton's struggle with those moments in Scripture where God seems himself to make sinners commit their sins, and he highlights the importance in *Paradise Lost* of the tension between human liberty and the reach of God's agency. God's foreknowledge of what people are going to do does not make him responsible for what they do, Milton insists, and yet, for Rumrich, “the pervasive shaping power of his [God's] eternal providence” ultimately undermines the clarity of that distinction (118). Even when chance seems distinctly unassimilable to providence, Rumrich argues, things are murky. Satan is rescued from the abyss by a “tumultuous cloud,” but this image of explosive force belongs to the figural and literal pattern that links Satan with gunpowder, so that what looks like sheer contingency might in fact be obscurely reflective of God's elaborately ramifying agency: out here in the disordered reaches of the universe, seemingly beyond God's jurisdiction, chaotic phenomena are somehow not beyond good and evil but instead obscure participants in the drama of

their interplay. Webster's essay, which I praised above for its subtle understanding of Milton's Galileo, returns from this comparative perspective to the decided focus on Milton's intellectual-historical moment that defines most of the contributions to the volume. It considers Milton's approach to the question of the plurality of worlds, arguing that his vision of a universe in which human beings are no longer the taken-for-granted center of things in fact gives rise to a new form of human centrality: in place of earth or humankind, it is now the individual observer, however situated, whose relationship to God's expansive creation matters most. Webster sees this emphasis as an important continuity between Milton and Galileo, who takes "his own individual self" rather than "the earth in general" as "the focal point from which he observes and contemplates the heavens" (138). She also shows that Milton recognizes the importance of this continuity and thus evokes Galileo to suggest the primacy of the embodied individuality of the observer, an insight that orients several illuminating interpretations of passages from the poem. Marisa Bruce's essay, the only one in the book that is primarily concerned with an author other than Milton, also considers the question of the plurality of worlds, now in connection with Francis Godwin's *The Man in the Moone*, which, she suggests, is a probable source for some of Milton's speculations. She provides an insightful discussion of "extraterrestrial theology"—in particular, the question of whether souls have been or need to be saved on other planets—across a wide range of thinkers, including William of Vorilong and Tommaso Campanella, who take seriously the possibility that Christ's sacrifice redeems extraterrestrial sin, and Isaac La Peyrère, who does not explicitly consider the question of extraterrestrial life but explores similar soteriological questions in advancing an argument that not all human life was descended from Adam and that sin is imputed generally to humankind without it needing to be transmitted through genetic inheritance (152). This debate provides an intellectual context for Bruce's insightful discussion of Godwin's science fiction as theological fiction.

Part 3, "Chemistry and Physiology, Vitalist Matter and the Passions," can be read as a sequence of linked reflections on Milton's monism. Charlotte Nicholls discovers a new approach to an interpretive issue that has been interestingly discussed before by scholars such as John Rogers: the relationship, in *Paradise Lost*, between God's sovereign decrees and natural laws, which can be construed as an equation, a tension, or, to amplify this last possibility, a problem. "If Milton's is indeed a coherently monist universe," Nicholls writes, "the gap between the voluntarist God of the prohibition and the rationalist or radical universe in which the fruit is toxic must be closed" (168). Attempting to close that gap, she makes the thought-provoking argument that the fruit is not just a symbol but is also "materially efficacious" (168). Examining Milton's physiology in connection with contemporary theories in chymical medicine, she points out that Milton shares with Francis Glisson a vision of a "subliming body" in which corporeal spirits transform into each other and in which—here is the unusual conviction they share—there is no break between the corporeal and the rational, which helps explain why "a putrid febrile fermentation started by the fruit" can have such far-reaching consequences (169). In the aftermath of Adam and Eve's transgression, Nicholls writes, "the contagious fire has left deposits in a film over the eyes, darkening their sight, but the darkening of the mind, like the other effects of the Fall, also has a basis in the physiology of fever" (179). Leah S. Marcus's essay is likewise interested in medicine, but here the focus is the Paracelsian tradition and especially its promotion of homeopathic remedies. This is the only essay in the collection that is centered on one of Milton's works other than *Paradise Lost* (though it does glance at the epic): Marcus's project is to think through possible resources in Paracelsian theory for the interpretation of *Samson Agonistes*. She argues that Samson's "three visitors, Manoa, Dalila, and Harapha, each present him with a different set of threats from the outside that corresponds with specific passions that dominate his own mind. In each case, the encounter functions homeopathically, in the Paracelsian manner, to expel them and free him from the passions' hold upon him" (199). Ultimately, she argues that this sequence of exposures produces catharsis—for Samson, for the Chorus, and for readers. There are moments in this discussion where I am unsure about the tightness of the connection to Paracelsus: is "learn[ing] to be good by ... encountering and fending off external evils" genuinely recognizable as a homeopathically curative exposure in a distinctly Paracelsian sense (197)? Marcus anticipates this kind of question, and she is careful not to overstate her case: the argument is explicitly not for the

direct influence of Paracelsian thought on Milton but for the value of an exploratory juxtaposition, which does indeed make for a perceptive discussion of *Samson Agonistes*. In the final essay in the collection, Stephen Fallon identifies commonalities between the anti-dualisms of Milton and Isaac Newton: both men affirm a corporeal soul and the idea of animate matter more generally. There is no argument here for influence, but Fallon discusses Milton and Newton's similar intellectual worlds: similarities in educational background and social networks contextualize their shared philosophical commitments. Fallon's lucid essay is also sensitive to significant differences between his protagonists: "Each emphasizes God's unfettered activity, but where Milton stresses the freedom of God's will, Newton stresses God's unlimited power" (229). Fallon sums up what is for me most intriguing about his argument with the following formulation: "To see the ways in which Newton, the banisher of poetry, articulates a world very like the world of *Paradise Lost*, is to free oneself from the illusion that what is important in Newton is what in hindsight has seemed to be the creation of our modern, largely mechanistic worldview" (228).

It is on this question—of the relationship between the early modern past and the late modern present—that I would like to end. For Fallon's observation affirms the value of the careful historicism his essay beautifully exemplifies: the vitalist Newton is lost to us, along with the intellectual world that enabled his Miltonic vision (if I can put it that way), if we do not spend more time with the dead, get to know them through their still-living words, and cut through received narratives about how things were. This collection, like much of the most exciting work in early modern literary studies today, provides ample evidence of how generative such a project can be—in this case, renewing our sense of what Milton thought, said, and did by recovering his relationship to the intellectual projects, scientific practices, theories of nature, and conceptions of God that shaped his life and work. With an eye on this goal, Martin's Introduction rightly rejects simplistic oppositions between old animisms and new mechanisms, between old religiosities and new rationalities, encouraging us to examine the past on its own terms. Yet the book's very title signals an interest in "the new," and Martin's Introduction is called "Encountering the Modern." The diversity of the contributions ensures that their shared investment is not this or that specific context (Baconianism, say) but a certain "modernity" that encompasses the many distinct intellectual developments they ponder. The contrast deserves some reflection: this self-consciously modernizing collection is in fact much more invested in protecting the past from anachronism, ensuring that it is not distorted by late modern premises, than it is in developing answers to the question it implicitly poses about what makes Milton "modern." There are of course good reasons to be cautious here: I am not advocating anti-historicism—and certainly not a return to teleology. What I want instead to say is that this collection's circling of the problem of modernity activates my own desire for versions of literary history that insist on articulating the seventeenth century with what follows it—that coherently narrate the passage from then to now. To name this desire for large-scale historical narrative—for clear lines of causal development, for periodizing arguments without over-firm demarcations, for explanations of the persistence of the past in the present that go significantly beyond the gestural or thematic—is not at all to critique this volume but to identify one place the conversation might go next. If we have found ourselves talking about modernity without quite talking about modernity—if we have rejected both complacent faith in progress and conservative nostalgia but remain invested in connecting the past to the present—perhaps we can look forward to new, thoughtful, trans-historical (not ahistorical, but period-spanning) approaches. This goal is a tall order in literary studies, requiring as it does the combination of vastly different scales of analysis, the coordination of long-term processes and textual particulars, but one good point of departure is this imaginative collection of forward-looking feats of contextualization.