PREFACE

This book is a study of the cultural intersections between those two events of seventeenth-century history known to us as the English and the Scientific Revolutions. It concentrates specifically on the work of five writers from the period of the Civil Wars, the Interregnum, and the earliest years of the Stuart Restoration: John Milton, Andrew Marvell, Gerrard Winstanley, William Harvey, and Margaret Cavendish. In examining the texts they composed between 1649 and 1666, I investigate the literary and ideological implications of a cultural phenomenon notable for, among other things, its logical outlandishness: the intellectual imperative to forge an ontological connection between physical motion and political action. Although their work spans the generic spectrum from medical treatise to epic poem, each of these writers, I argue, struggles to reconcile the new materialist science of corpuscular motion and interaction and the new political philosophy of popular sovereignty and consensus. The matter of the English Revolution was for all these figures a problem to be explored, in some cases exclusively, by means of the revolutionary science of matter.

It is the exciting and productive intellectual consequences of this discursive commingling at a critical point in England's political and literary history with which this book is concerned. The methodological assumptions behind my analysis of the alliance between political and natural philosophy should be distinguished here at the outset from those informing the study of seventeenth-century natural philosophy generated and influenced by the recent work of Steven Shapin and Simon Schaffer.¹ Embarking on what they call a

1. Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the*

“sociology of knowledge,” Shapin and Schaffer attempt to isolate the political import of seventeenth-century science in the controversies over experimental method, institutional affiliation, and evidentiary procedure. But a full understanding of the political valences of seventeenth-century science will never arise from a sociology of scientific practice or a positive identification of the allegiances of philosophers and institutions. In limiting their focus to the cultural authority they find subtending certain intellectual institutions and rhetorical methods, the sociologists of early modern science are compelled to overlook the ideological burden borne by the actual physical doctrines over whose success or failure the period’s intellectuals waged such battle. For many natural philosophers writing at midcentury, the political promise, or threat, posed by nearly any physical theory—whether vitalist, dualist, materialist, or one of the many combinations thereof—rarely involved the peripheral, if interesting, question of right method. The widely felt social and political implications of the period’s scientific speculation emerged much more directly, I am convinced, from an engagement with the ideologically resonant language constitutive of physical theory itself.² Reflective of course of my own training as a reader of literary texts, this book makes sense of revolutionary culture through a literary analysis of ideologically consequential trope, narrative, and argument.

The thrust of this literary analysis diverges as well from what I see as the dominant strains of the literary study of the seventeenth-century texts I explore. The distance here from other interpretations of seventeenth-century literary culture can be measured most clearly by my analysis of the poet and political theorist whose name my subtitle employs to stand, synecdochically, for his entire age. The readers of Milton who have pursued the natural philosophy and theology of *Paradise Lost* and *De doctrina christiana* have by and large been much more comfortable describing than actually account-

Experimental Life (Princeton: Princeton University Press, 1985). For a related study of the social calibrations of epistemology and method, see Richard W. F. Kroll, *The Material Word: Literate Culture in the Restoration and Early Eighteenth Century* (Baltimore: Johns Hopkins University Press, 1991).

2. I have found more congenial to my own approach the histories of science that have studied the politics of natural philosophy with an eye to the analogical rhetoric of physical explanation, including Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (San Francisco: Harper and Row, 1980); James R. Jacob and Margaret C. Jacob, “The Anglican Origins of Modern Science: The Metaphysical Foundations of the Whig Constitution,” *Isis* 71 (1980): 251–67; Otto Mayr, *Authority, Liberty, and Automatic Machinery in Early Modern Europe* (Baltimore: Johns Hopkins University Press, 1986); and two early works by Steven Shapin, “Social Uses of Science,” in *The Ferment of Knowledge: Studies in the Historiography of Eighteenth-Century Science*, ed. G. S. Rousseau and Roy Porter (Cambridge: Cambridge University Press, 1980), pp. 95–139, and “Of Gods and Kings: Natural Philosophy and Politics in the Leibniz-Clarke Disputes,” *Isis* 72 (1981): 187–215.

ing for Milton's shocking embrace of a radical Christian materialism.³ Milton's theory of the *ex deo* Creation, his monistic belief in the inseparability of body and spirit, his mortalist belief that the soul dies with the body, and his subordinationist faith that the Son was generated materially from the body of the Father—all these great theological heresies situate Milton so far outside the reaches of either the Puritan or Anglican mainstream that critics have had difficulty placing his theology in a meaningful cultural context. The exceptions to this critical failing, however, are notable, and I must announce here my debt to the work of Christopher Kendrick, Stephen Fallon, and especially William Kerrigan, readers who have, in very different ways, plotted Milton's materialism within compelling critical narratives of motive and function.⁴ I have sought in this book to further their expansion of the discursive territory from which the period's most important texts—whether lyric poem, biblical epic, or physical treatise—can be seen to have emerged. My work diverges from Fallon's and Kerrigan's in my attention to the diffused but powerful current of political energy charging the literature of materialism. The weakness of the historical, or "sociological," study of seventeenth-century science has without question been its deafness to the analogical poetics of ontological speculation. The weakness, conversely, of even the strongest literary studies of Milton and his contemporaries has been an insensitivity to the ideological freight of their materialist poetics and theology.

This book opens, in Chapter 1, with an attempt to identify a brief but notable intellectual movement that flourished in the early years of the republican Commonwealth. Citing the example of William Harvey's late writings on the circulation of the blood, I argue that the philosophy of monistic vitalism, which would have such an impact on Milton, emerged in this period to provide a conceptual framework for that social and political structure of self-determination we recognize as liberalism. Turning from the Harveian treatise to the Marvellian pastoral, the next two chapters study the lyric

3. Classic studies of the materialist aspect of Milton's theology include Walter Clyde Curry, *Milton's Ontology, Cosmogony and Physics* (Lexington: University Press of Kentucky, 1957); William B. Hunter, Jr., "Milton's Materialistic Life Principle," *Journal of English and Germanic Philology* 45 (1946): 68–76; Hunter, "Milton's Power of Matter," *Journal of the History of Ideas* 13 (1952): 551–62; John Reesing, "The Materiality of God in Milton's *De Doctrina Christiana*," *Harvard Theological Review* 50 (1957): 159–74; and George Williamson, "Milton and the Mortalist Heresy," *Studies in Philology* 32 (1935): 553–79.

4. Christopher Kendrick offers a Marxian reading of Milton's monism in *Milton: A Study in Ideology and Form* (New York: Methuen, 1986); and Stephen M. Fallon, in *Milton among the Philosophers: Poetry and Materialism in Seventeenth-Century England* (Ithaca: Cornell University Press, 1991), pp. 79–110, argues for the centrality of vitalism to Milton's theology of free will. The most powerful account of Milton's monism is to be found on pp. 193–262 of William Kerrigan, *The Sacred Complex: On the Psychogenesis of "Paradise Lost"* (Cambridge: Harvard University Press, 1983).

inscription of the politically resonant discourses of vitalist science. Chapter 2 allies the action of Marvell's pastoral "Mower" to the action of the "Digger" represented by Marvell's contemporary, the communist visionary Gerrard Winstanley. Chapter 3 investigates the relation of Marvell's images of virginity to the vitalist attestation of virginal power at midcentury; the figure of the virgin surfaces in Marvell's poems to embody a wide range of political, even apocalyptic, forces. The next chapter, on Milton's chaos, maps the Restoration revival of vitalism in *Paradise Lost*. Although Milton had, by the time he published his epic, abandoned the most liberal, egalitarian impulses of his early political writing, his early radicalism surfaces in the poem in the language of a monistic natural philosophy. Chapter 5, on Milton's representation of the expulsion, seeks a new contextualization for the ostensibly authoritative discourse of "eternal providence" in *Paradise Lost*. The tension in Milton's poem between his science of vitalist agency and his seemingly Calvinist providentialism exposes the necessarily dialectical origins of the ideology of liberalism with which Milton has come to be so powerfully associated. The subject of Chapter 6 is the natural philosophy of Margaret Cavendish, the Duchess of Newcastle. In a series of vitalist treatises on the nature of material particles, this Royalist contemporary of Marvell and Milton appropriates the rhetoric of radical Puritan utopianism and opens to explicit view the gendered nature of the poetics of agency and organization that had structured all the period's vitalist texts.

In pursuing the interrelations of religion, science, and politics, I have at many points configured the object of my analysis as a unified discursive field, the set of seventeenth-century linguistic constructions given to the articulation of agency and organization. This discursive field constitutes the mutually informing disciplines of natural and political philosophy, but it also structures and unsettles many of the period's most striking works of literature. The conceptual struggles endemic to revolutionary England were mapped out, no less for Winstanley and Hobbes than for Milton and Marvell, on the terrain of linguistic representation, a terrain whose formal demarcation by strictures of grammatical agency and syntactic organization at once helped and hindered the conceptualization of the agential and organizational problems at hand. My strategy therefore throughout this book has been to test the matter of England's revolutions through an analysis of the poetics of revolution, of the charged rhetoric of action and structure that marks so much of this period's writing. We will see the unacknowledged assumption of the logical interdependence of natural and political philosophy push all the writers studied here into logical traps and literary binds often well beyond the parameters of authorial design. In tracing various entanglements in the frequently unintended literary phenomena of paradox, syntactical

confusion, and narrative and thematic contradiction, we are not merely enlivened to the impact of the English and Scientific Revolutions on seventeenth-century letters. This literary perspective can expose as well the fault lines dividing the conflicting motives, interests, and modes of thought that helped impel these revolutions in the first place. It is my hope that this book brings into focus the consequences, at once literary and political, of the alliance, at this moment of England's two great revolutions, of science, poetry, and politics.

JOHN ROGERS

Hatfield, Massachusetts