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Reviews

Puck Fletcher

University of Sussex

The Machine in the Text: Science and Literature in the Age of Shakespeare and Galileo by Howard Marchitello

Oxford: Oxford University Press, 2011

In *The Machine in the Text*, Howard Marchitello (Professor of English, Rutgers University) argues for the imbrication of literary and scientific modes of thought in the early modern period. He presents a series of case studies of works by authors traditionally deemed to be either 'literary' or 'scientific' in order to ask wider questions about the relationship between the two genres. Marchitello frames his discussion in two ways: first, in terms of the twentieth-century debate about the 'two cultures' explored through the work of C. P. Snow; and second, in terms of a more theoretical early modern distinction between art and nature. In recasting the consideration of the relationship between literature and science in terms of art and nature, Marchitello makes a valuable contribution to this increasingly popular field as it allows him to bring to the fore the concept of agency through the idea of the machine, as theorized by Bruno Latour and Andrew Pickering (Latour, 1987; Pickering, 1995, both cited in Marchitello, 2011, p.18). Marchitello draws a distinction between

simple empiricism, in which seeing is believing, and experimentalism, in which it is an occasion for enquiry. Marchitello (2011, p.59) identifies the heart of this distinction as being the difference between knowledge construed as found and knowledge understood as constructed; the difference between a repository of things—a cabinet of curiosities—and a machine dedicated to the production of knowledge—an air-pump, a microscope, a telescope. In this way, Marchitello is able to identify machines for the production of artifactual knowledge in texts as diverse as Bacon’s dramatic devices, Shakespeare’s plays, Donne’s devotional writings, and Galileo’s sunspot letters.

In his chapter on *Hamlet* (probably the most important chapter of the volume), Marchitello reinterprets the perplexing machine of Hamlet’s love letter to Ophelia as “an amalgamation of instruments dedicated to the production of artifactual experience that is deployed as a machination” (2011, p.69). In Marchitello’s eyes, Hamlet is not mired in the inability to act, he is an experimenter caught in the more general paralysis of the alienation of modernity. Influenced by Walter Benjamin, Marchitello situates the play at the turn of modernity, the ushering in of an era of information, reframing the play in the context of the crisis of scepticism which attacks the comfort of the sense perception model of knowledge: “*Hamlet* asks the urgent question: if thinking happens through the body, then what happens to thought when the body fails?” (2011, p.58). Marchitello interprets the play as staging the struggle to resist conclusions about the uselessness of the body in accessing knowledge, demonstrating how Shakespeare achieves this by means of Hamlet’s machinations—the play within the play, the letters—which serve as tests or experiments deployed by the prince in order to produce knowledge.

In the chapter on Galileo, Marchitello considers machines of observation. Although the chapter is entitled “Galileo’s Telescope,” Marchitello’s main example is the hypothetical church with the broken window described in *Letters on Sunspots*. Through such a window, Galileo suggests that the Emperor may see the light of the sun falling on the paving, and that if he catches this light on a flat piece of white paper, he will be able to perceive the sunspots without any optical instruments. Marchitello points out that although the church-as-observatory of this thought experiment is imaginary, it is a literal machine. However, it is also a literary effect used to point toward a truth that is larger than the simple story of a church with a broken window; it is a

scientific parable about Galileo's efforts to communicate his understanding of the world which is made possible by his inquiry into nature (Marchitello 2011, p.88). Marchitello highlights the necessary point of contact, the dependence, between nature and the machine in scientific inquiry, reading Galileo's sunspots as Latourian "quasi-objects" (Latour, 1993, p.85 cited in Marchitello, 2011, p.89).

The central argument of the book is that there is a shared machinic quality to the production of both scientific and literary knowledge. In addition, Marchitello also puts forward a number of smaller, but no less suggestive, arguments along the way. He nods to the role of print culture in the structuring of the scientific thought of Bacon and Galileo, as well as highlighting the textuality of Hamlet's machines; he considers the relation of Donne's spiritual autobiography to the subjective recording of particular experience practiced by the experimentalists; and he opposes a view of the naturalness of art found in the emblematic epistemology of *trompe l'oeil* (taking *The Winter's Tale* as his example) with the assertion that nature is already artificial, as found in the figure of the garden in Evelyn's *Elysium Britannicum*.

Marchitello has written a fascinatingly wide-ranging book that draws together a variety of interesting observations related to the production of knowledge in science and literature that will surely become a jumping-off point for many further studies. However, the book also suffers for its breadth, in places lacking the depth a longer or more tightly focussed study might boast, and in others struggling to clearly articulate its argument and purpose. The juxtaposition of the major case studies is illuminating, but the attempts to more fully integrate the scientific and literary by including additional players within these (such as Tycho Brahe in the *Hamlet* chapter) lacks argumentative purpose and clutters up the work like a cabinet of curiosities. Marchitello's prose, dense with subclauses and parentheses, sometimes makes the reader work hard to access the scholarship on offer, a problem not helped by the publisher having done the author and readers the disservice of producing a text heavily laden with typographical errors and even featuring some frustratingly inaccurate referencing in the footnotes. The framing of the work with Marchitello's discussion of the two cultures debate and the triumphalist theory of history is also a double-edged sword. On the one hand, it ties

Marchitello's work to an important series of turns in the history of criticism, but, on the other, it leaves him labouring with old ghosts instead of engaging with more up-to-date ideas on the subject.

As well as ghosts, this book also conjures up a rather intriguing elephant in the room, which most other reviewers have left well alone: the extended account of "Britain's path to the future: Lit by the brilliant light of science," Tony Blair's 2006 speech to the Royal Society in which the former Prime Minister cites C. P. Snow and offers his own political solution to the problem of the two cultures. At a time when politicians are pitting academic disciplines against each other in the frantic scrabble for ever-diminishing funds, a time in which the arts and humanities in particular are being hit hard, Marchitello's consideration of triumphalism and the two cultures debate in the context of modern politics makes a pertinent, if subtle, point. Marchitello suggests that Blair's triumphalist vision of a knowledge economy is realizable only by a "rhetoric of erasure" which has the effect, indeed the goal, of establishing a single (scientific) culture (2011, p.195). It is a rhetoric that rejects dialogue and debate on anything other than its own terms, and which sees its outcomes as necessarily moral and correct. Marchitello leaves the reader to connect the dots, but if we consider the lessons of the early modern portion of the book—that is, the interrelation of scientific and artistic modes of thought in producing knowledge—we can see the intellectual (not to mention social and political) dangers of the sort of monoculture envisioned by Blair. As an early modernist it would be easy to dismiss this bizarre contemporary aside as a mere oddity, but I think this wider application of Marchitello's theoretical argument rather exemplifies the strength of his work and provides a brave demonstration of the relevance of historical and cultural studies to modern life, for which he deserves to be applauded.

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