

ESSAY REVIEW

On Attempting to Construct Alternative Narratives

John Law, *Aircraft Stories: Decentering the Object in Technoscience*

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In the 1980s, John Law built bridges between theory and history. He was a key member of the group of innovative scholars who linked recent developments in the sociology of scientific knowledge to the history of technology. He participated in the seminal 1984 conference on the social construction of technology held at University of Twente, and he contributed a chapter to the volume that emerged from this conference. He has published theoretically rich articles and essays in this journal, one of which won the Society for the History of Technology's Usher Prize.¹

In this book, however, Law burns more bridges than he builds, not out of malice but rather out of indifference to the scholarly practices of the history of technology. Ostensibly, *Aircraft Stories: Decentering the Object in Technoscience* (Durham, N.C.: Duke University Press, 2002), is about a failed British military aircraft project, the TSR2, a supersonic, nuclear-capable, multi-role attack airplane that was canceled in 1964. In reality, what the reader will find is an extended exercise in postmodern theory, one that problematizes modern concepts like airplane-ness, project-ness, and what it means to construct historical narratives. Such questioning of fundamental

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0040-165X/04/4502-0011\$8.00

1. John Law, "Technology and Heterogeneous Engineering: The Case of Portuguese Expansion," in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, ed. Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch (Cambridge, Mass., 1987), and "The Olympus 320 Engine: A Case Study in Design, Development, and Organizational Control," *Technology and Culture* 33 (1992): 409-40; John Law and Vicky Singleton, "Performing Technology's Stories: On Social Constructivism, Performance, and Performativity," *Technology and Culture* 41 (2000): 765-75.

categories can be quite valuable, particularly when conducted in dialogue with the existing scholarship of a discipline. Yet, despite Law's grand claims, *Aircraft Stories* has very little to say to historians of technology.

I'll start with what the book is not about. There is marvelously little in it about any specific technology at all. Law cites only a handful of primary and secondary sources on the TSR2 itself. He makes no attempt to come to grips with matters that historians of technology would expect to find in a book about a specific airplane project, telling the reader nothing about the airplane as a material thing, almost nothing about the context of military aviation in cold war Britain, and very little about the British aircraft industry. The book is not even a theoretical work about technology, one that might reflect on, for example, the nature of material artifacts and the processes that bring them into being.

In fact, Law explicitly refuses to construct a coherent narrative about the TSR2. Instead, he attempts to construct an alternative to such narratives. Law takes as his starting point Lyotard's definition of the postmodern as "incredulity toward metanarratives," which in practice means a rejection of narrative in general, except for snippets of stories (*petits récits*).² Law also seeks to complement the postmodern attack on the unity of the subject by similarly questioning the unity of the object. He argues that objects are simultaneously coherent and incoherent, single and multiple, characterized by what he terms "fractional coherence": the state of being more than one but less than many, in the same way that Mandelbrot's fractals exist in more than one dimension but less than two. Through this idea of fractional coherence, Law claims to avoid the choice between modernism and postmodernism, between singular coherence and multiple incoherence. He also claims to avoid the performative contradiction of postmodernism that arises when postmodernists construct narratives about the inadequacy of narrative. In place of narrative, Law purports to follow the metaphor of the pinboard ("bulletin board" for Americans), which juxtaposes snippets of text and pictures without implying coherence or "singularity." Law's book, however, makes a very orderly pinboard, with an introductory chapter summarizing the book's themes and chapters, as well as a concluding chapter recapitulating these themes and reviewing earlier chapters. These narrative conventions do give the book some coherence, but they also show that Law remains trapped within the performative contradiction of postmodernism.

The book has eight substantive chapters, each with an abstract, single-word title. The first, "Objects," develops Law's concept of fractional coherence through an extended meditation on an early sales brochure for the TSR2, produced two years before the airplane's inaugural flight. Law extracts "exhibits" from the brochure, that is, snippets of text and illustra-

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2. Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge* (Minneapolis, 1984), 60.

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tions, which yield to his exegetical art. These exhibits reveal, according to Law, not a single TSR2 but a multiplicity of objects united through a “strategy of coordination.” With a gesture to Foucault, Law spends nearly two pages discussing how the table of contents generates a “coordinated object” of “hierarchically related parts” (p. 21). He also inserts other “exhibits,” quotations from critics who questioned the basic premises of the TSR2 and thus threatened to undo the work of coordination and reduce the object to incoherence.

The next chapter, “Subjects,” provides a first-person account, interspersed with discussions of Foucault, Althusser, and Norbert Elias, of how Law came to abandon his original plan for an actor-network study of the TSR2, setting aside the almost-completed manuscript in 1989 because of his inability to integrate the multiple narratives that he was trying to apply to the project. The following chapter, “Cultures,” examines (in a manner of speaking) the competing proposals for what became the TSR2. Law focuses on the narrative strategies used by participants, which he argues are the same strategies used by scholars of technoscience. All of these strategies, claims Law, embody a pernicious, totalizing cultural bias in favor of continuity. Subsequent chapters illustrate Law’s alternative approach, presenting the object in terms of oscillations between opposites, between presence and absence, singularity and multiplicity, coherence and incoherence. He returns to the sales brochure to examine the aesthetics involved in the complex “distributions of agency” implicit in this text. He probes the varying accounts of the cancellation decision in order to show its lack of coherence. Starting on page 164, Law presents a nine-page overview of the project, a snippet of traditional history provided as a sample of “grand narrative” to be dismembered. He even questions his own oft-cited concept of “heterogeneous engineering,” which also shares in the cultural bias toward continuity.

I suspect that most historians of technology would find this book incomprehensible. Law’s writing oscillates between coherence and incoherence, just like his model of the world. He spends most of the book on the abstract plane of postmodern theory, gesturing toward various scholars but not engaging seriously with their work, papering over inconsistencies with delphic, obfuscatory prose. Law does not argue for his fundamental positions but rather asserts them as dogma. He speaks primarily to a community of scholars already initiated into the arcana of postmodernism, scholars who take as an article of faith that narratives are a form of domination, “both dangerous and dangerously misleading” (p. 198). Within this community, Law’s book will no doubt be received as serious scholarship.

Law’s failure to reach beyond his own community is unfortunate, because postmodern theory does have something to offer historians of technology. It undermines the idea of history as the unfolding of scientific rationality, as the progressive realization of ever-more-efficient technology. It makes fundamental empirical claims about the role of new communica-

tions technologies in creating a rupture with the modern era. These are basic issues for the history of technology. But the problem here is more than just a failure to communicate. Law does not restrict his arguments to a particular field of scholarly practice. Instead, he makes universal claims about ontology and methodology, about the nature of the world and the scholarly practices appropriate to it. Law's postmodernism condemns as illegitimate almost all existing scholarship in the history of technology, scholarship that supposedly relies on "grand" narrative and the myth of the coherent object. Law's approach makes it impossible even to ask the most basic questions about specific technologies, about their origins and consequences. And perhaps most important, Law's approach would render impossible any historically informed politics to shape and control technology, to construct alternative narratives contesting the grand narrative of technological progress.

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There are two aspects to Law's postmodernism that make it problematic for the history of technology, the first inherent to postmodernism in general and the second specific to technology. Law's critique of narrative is derived from a highly questionable claim, namely, that there exists a coherent modern project to be transcended, a project centered on master narratives and grounded in the quest for unshakable foundations. In fact, modern thought has always been riven with contradictions and self-critique.³ Postmodernism commits the same error that it ascribes to modernism, postulating a false unity for modernity, a unity that is as foundational to postmodernism as any modernist quest for certainty. In effect, postmodernism is the negation of a chimera. Law claims he avoids the choice between modernism and postmodernism. But because his modernism is the creature of his postmodernism, he remains trapped between a caricature and its negation, completely self-referential, like Francis Bacon's spiders spinning elaborate webs of thought out of their own entrails.

A more specific problem arises when postmodernism encounters technology. Most versions of postmodernism share what I call a semiotic conceit, the assumption that there is no categorical distinction between language and reality, between semiotic systems and the material world. This semiotic conceit stems in part from postmodernism's distrust of representation, a distrust that Law shares. He rejects the idea that texts "represent the world" because "this means that we stand outside and describe the world," and thus "are not in the world." Law proposes "performance" as an alternative to representation. He stretches J. L. Austin's speech act theory to argue that writing "performs" reality, which "is thereby rendered more obdurate, more solid, more real that it might otherwise have been" (p. 6). In this way, "narratives . . . tend to perform themselves into being" (p. 86).

3. See, for example, Jürgen Habermas, *The Philosophical Discourse of Modernity* (Cambridge, Mass., 1987), esp. chap. 3.

In Law's world, therefore, philosophers can ignore Marx's eleventh thesis on Feuerbach, which criticized them for interpreting rather than changing the world.

The semiotic conceit endows academic labor with great significance, but such views have little purchase in the workshop or factory, on the construction site, or even in the gadget-laden home. Technology emerges at the interface between language and the material world, in the profound tension between human plans and their realization. Semiotic analysis can deal with this tension when it accepts the fundamental distinction between language and the material world, as do some versions of socio-semiotics.⁴ The "performance" of a narrative does not directly change the material world. Law's hand-waving discussion of speech acts cannot define this problem out of existence. By subsuming material practice to narrative performance, he in effect eliminates the most fundamental questions of the history of technology.

Despite Law's grand claims, this book draws on a rather narrow range of scholarship. His most frequent citations are to his own works and works of STS scholars with whom he has collaborated directly. He simply ignores the historical literature on the nature of technological change. Scholars in STS who fall outside his circle receive short shrift, particularly those associated with the social construction of technology. Law even slights actor-network theory, which he himself helped found. Despite his claim to be forging a middle way between modernism and postmodernism, Law dismisses critical modernists like Anthony Giddens and Ulrich Beck whose works question both high modernism and postmodernism.⁵ The critique of narrative is fundamental to Law's approach, but Law ignores the vast literature on the subject, in particular the works of Hayden White and Paul Ricoeur. Only the most theoretically naive historian still believes that narrative directly reflects the underlying reality of history, rather than providing one strategy that historians use to give meaning to the past.⁶ Law's critique of the ontological status of the object cites no philosophy, such as Hegel's analysis of the problematic unity of the "thing" given the multiplicity of its properties.⁷ Nor does he cite recent theorists of material culture

4. See Mark Gottdiener, *Postmodern Semiotics: Material Culture and the Forms of Postmodern Life* (Oxford, 1995).

5. See esp. Ulrich Beck, Anthony Giddens, and Scott Lash, *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order* (Cambridge, 1994).

6. Hayden White, "The Question of Narrative in Contemporary Historical Theory," in *The Content of the Form: Narrative Discourse and Historical Representation* (Baltimore, 1987), 26–57; Paul Ricoeur, *Time and Narrative*, 3 vols. (Chicago, 1984–88).

7. Georg-Friedrich Hegel, "Perception, or Things and Their Deceptiveness," in *Phenomenology of Mind*, trans. J. B. Baillie (New York, 1967), 161–78; Hegel, *Science of Logic*, trans. A. V. Miller, §1047–§1080, consulted 29 November 2003 at <http://www.marxists.org/reference/archive/hegel/works/hl/>.

who probe the nature of material objects.⁸ In his chapter on “Culture,” Law mentions none of the vast literature on the topic.⁹ Despite an entire chapter based on an advertising brochure, he never mentions the cultural studies literature on the semiotics of advertising.¹⁰

Most peculiar, however, is Law’s failure to engage with the work of a close colleague who has written a similar book, Bruno Latour. Not only has Latour elaborated an “amodern” alternative to modernism and postmodernism; his account of a failed technological project, *Aramis*, also problematizes modern narrative forms.¹¹ Latour’s goals in *Aramis* are admittedly different than Law’s; Latour seeks a form of presentation that does not presume the modern distinction between the human and nonhuman. But Latour grapples with the same fundamental issues as Law, with the fragile unity of the object, with the inadequacy of standard narrative forms. At the end of *Aramis*, “Norbert,” Latour’s *porte parole*, states that he would “like to do a book in which there’s no metalanguage, no master discourse, . . . where all the genres . . . would be at the same level” (p. 298). In *Aramis* Latour attempts to do just that by interweaving a fictional narrative, excerpts from interviews, documents, theoretical analysis, and the voice of *Aramis* itself. One can question whether Latour’s experiment succeeds, but it does provide one model of how to construct a “decentered” account of a technological project. *Aramis* certainly deserves more attention in *Aircraft Stories* than just a brief mention in a footnote. Latour is far more successful than Law in creating an alternative to modernist narratives about technological projects, even though Latour’s approach is also fundamentally problematic for historians of technology.¹²

My point here is not to criticize Law for failing to cite all the relevant literature, which no broadly synthetic work can do. Rather, the narrowness of his sources demonstrates a certain insularity, a tendency to limit dialogue to scholars who share common assumptions, an arcane vocabulary, and specific norms of scholarly practice—that is, commitment to a paradigm. This commitment is a thoroughly modern principle for ordering the world, for denying voice to outsiders, for containing anomalies and silencing criticism. It is a commitment that fundamentally excludes historians of technology from Law’s version of the postmodern project.

Ultimately, though, Law’s use of postmodernism as a novel approach

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8. For example, Daniel Miller, *Material Culture and Mass Consumption* (Oxford, 1987), esp. chaps. 6, 7.

9. Such as Terry Eagleton, *The Idea of Culture* (Oxford, 2000).

10. The classic work is Judith Williamson, *Decoding Advertisements: Ideology and Meaning in Advertising* (London, 1978).

11. Bruno Latour, *We Have Never Been Modern* (Cambridge, Mass., 1993), and *Aramis, or the Love of Technology* (Cambridge, Mass., 1996)

12. For a cogent critique of Latour, see David Bloor, “Anti-Latour,” *Studies in the History and Philosophy of Science* 30 (1999): 81–112.

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for technology studies is rather odd. Postmodernism shares with modernism a contempt for tradition, a passionate neophilia, along with an apodictic attitude that admits little criticism. But postmodernism's novelty has long since passed, and a core orthodoxy has arisen within the movement's broad variety. Postmodernism has perhaps not quite ossified, but its transformative effects have proven limited. More than fifteen years ago, Anthony Giddens attacked postmodernism's intellectual foundations, structuralism and poststructuralism, as "dead traditions of thought." According to Giddens, "notwithstanding the promise they held in the fresh bloom of youth, they have ultimately failed to generate the revolution in philosophical understanding and social theory that was once their pledge."¹³ Law's book demonstrates the continuing validity of this judgment.

13. Anthony Giddens, "Structuralism, Post-Structuralism, and the Production of Culture," in *Social Theory Today*, ed. Anthony Giddens and Jonathan Turner (Stanford, Calif., 1987), 195.