

FOCUS: THICK THINGS

Introduction

*By Ken Alder**

ABSTRACT

This Focus section—a token of the renewed attention that historians are paying to material artifacts—is devoted to “thick things,” a phrase meant to invoke the multiple meanings ascribed to particular material artifacts, even those apparently subject to the thinning regime of modern science. In contrast to Darwinian and/or functionalist explanations for technological change, the essays in this section show how things are as much assemblages of ethical, aesthetic, and political prescriptions as they are elements in the service of any narrow utility. In doing so, the essays undermine misleading dichotomies, such as science/technology, idea/thing, and especially developed/underdeveloped. They point toward a renewed sense of what a reformulated materialism might still accomplish.

What upsets people is not things themselves, but their theories about things.
—Epictetus, quoted in the epigraph to Laurence Sterne,
The Life and Opinions of Tristram Shandy, Gentleman (1759)

THINGAMAJIG, DOOHICKEY, GIZMO, widget, doodad, thingumadoodle, whatchamacallit, dingus, *truc*, *machin*, *bidule*, *Dingsda* . . . There are a gazillion names for the gadgets whose names we can’t remember, the thingums that help us do whatever it is we need to do whenever we need to do it. And where would we be without them?

When economists draw intersecting curves of the relative supply and demand for gadgets and widgets, they aggregate, and hence obscure, the multiplicity of what things can do and mean. Yet a history of things encompasses much more than an account of what “they” can do for “us,” if only because the purposes things serve are unanticipated by those who design, make, and market them. Hence stories about things involve more than stories of generic utility. To reduce an object to its function involves more than a failure of attention; it is a slur on the ability of human ingenuity to repurpose the material world and on the

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power of things to reshape the contours of human experience. Who hasn't bent a paper clip to some untoward end?

In recent years many scholars have organized their histories around the origins, career, and misadventures of particular things: how the bicycle got two wheels of the same size, how the refrigerator got a hum, how the air pump sprung a leak, or how the *Challenger* blew up.¹ Such scholarly microstudies are meant to be representative in two sober senses: as particular examples of general patterns of technoscientific activity, and as generally reflective of particular geographic and historical circumstances. This double representativeness endows these tales with an incantatory quality, as if they could conjure up an entire moral economy around the fate of a single thing. In this they are like Rudyard Kipling's *Just So Stories*, his mock-evolutionary fables for the new twentieth century: how the whale got its throat, the camel its hump, and the leopard its spots. Kipling wrote these folk tales for an industrial-Lamarckian age, with character as physiognomic fate.² Consider the tale of the Elephant's Child—he of the 'satiabile curiosity—whose boot-like nose is pulled into a trunk by the crocodile because he has dared to ask what the croc has for breakfast—and who only then discovers that his new snout is useful for flinging mud and spanking elderly relatives.

In recent years the "just so" epithet has been misappropriated by evolutionary theorists, who use the term to critique those superficially plausible adaptationist fables that explain particular traits (including human behaviors) as the fruit of natural selection's pressures for optimization, often by assuming—despite a paucity of historical evidence—that current use implies original advantage.³ Many of our oft-told tales about the technological world still reinforce this functionalist imperative.⁴ Yet Kipling's fanciful origin stories did not mistake ends for origins, nor worldly function for imputed meaning. Similarly, the essays in this Focus section explore how the things of the world are assembled as much according to ethical, aesthetic, and political prescriptions as in the service of any narrow utility. As a result, these essays also double as morality tales, straddling scholarly rectitude and critical engagement.

Attention to material objects is hardly new for historians of science. Many of those who turned to the study of technology in the 1970s and 1980s did so as part of a larger reaction against the genealogy of great ideas and worldviews. But lest their newfangled "thing" histories presuppose the historical stability of the object itself—and thereby repeat the central failure of the old "idea" histories—these scholars took pains to study their artifacts in dynamic technological systems, social contexts, and patterns of meaning, thereby embracing, either implicitly or explicitly, the methodological premises of constructionism.⁵

¹ Wiebe Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change* (Cambridge, Mass.: MIT Press, 1995); Ruth Schwartz Cowan, "How the Refrigerator Got Its Hum," in *The Social Shaping of Technology*, ed. Donald Mackenzie and Judy Wajcman (Milton Keynes: Open Univ. Press, 1985), pp. 202–218; Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, N.J.: Princeton Univ. Press, 1985); and Dianne Vaughn, *The Challenger Launch Decision: Risky Technology, Culture, and Deviance at NASA* (Chicago: Univ. Chicago Press, 1997).

² Rudyard Kipling, *Just So Stories* (1902; London: Macmillan, 1959).

³ S. J. Gould and R. C. Lewontin, "The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme," *Proceedings of the Royal Society of London, Series B: Biological Sciences*, 1979, 205:581–598.

⁴ George Basalla, *The Evolution of Technology* (Cambridge: Cambridge Univ. Press, 1988). Functionalist adaptation, albeit of a nonoptimizing sort, is still the driving force behind the development of things in Henry Petroski, *The Evolution of Useful Things* (New York: Vintage, 1992).

⁵ The canonical collection is Wiebe Bijker, Thomas P. Hughes, and Trevor Pinch, eds., *The Social Construction of Technological Systems* (Cambridge, Mass.: MIT Press, 1989). The canonical case study is Donald Mackenzie, *Inventing Accuracy: An Historical Sociology of Nuclear Missile Guidance* (Cambridge, Mass.: MIT Press, 1990).

In the past decade, scholars of high science have again turned to the study of material objects and practices—from the miscellanea of the *Wunderkammer* to the standardized apparatus of the biology lab—this time, it would seem, in hopes of anchoring cultural histories that they feared might otherwise drift away upon a hermeneutical sea. Historians of science, apparently, still long to strike the bottom of things—if only to reassure themselves by giving a rock an occasional kick and saying, with Dr. Johnson, “I refute it *thus*.” In the process, they have made things the central actors in their dramas, giving them scope to desire (Bruno Latour), to talk (Lorraine Daston), and to mimic life (Jessica Riskin).⁶

These accounts acknowledge that creating artifacts to meet human ends is not a simple task and that it requires the coordination of heterogeneous networks of people and processes. The material world is lumpy, recalcitrant, and inconsistent. Connections come apart; parts wear out; things break. It is hard enough to build a single artifact that works in the prescribed manner, let alone coordinate diverse human interests in the hope that many thousands of these artifacts will operate as intended in diverse environments. In short, things are “thick.”

The phrase “thick things” is meant to invoke two interrelated aspects of the artifactual life.⁷ The first is the brute challenge of shaping the material world by overcoming what one early modern engineer called the “resistance and obstinacy of matter.” The second is the challenge of representing things in ways that at least partially and temporarily coordinate the diverse sets of human agents who design, make, and use them. The meaning I have in mind here is analogous to Clifford Geertz’s contrast between the capacity of rich, “thick” ethnographic description to represent multiple (and divergent) human points of view and the reductive “thin” descriptions with which scientific anthropologists once collapsed actions into a simplified matrix of functional behavior. In this respect, the thickness of both artifacts and their representations can be contrasted with the “thinning” process described by Gaston Bachelard, in which the synthesizing explanatory power of the physical sciences—and the physical instruments that embody those theories—create those tractable objects that constitute legitimate objects of inquiry.⁸

The essays that follow do not pretend to comprehensiveness, either as a survey of some putative academic discipline known as technology studies or as propositions in some overarching “thing theory.”⁹ Rather, they are meant to offer some examples of how one might read things explicitly touted as containing entire worlds—while still insisting on their particularity. Of course, the essays are also the outcome of the authors’ particular interests and distinctive route through the disciplines, but they all converge on a proposition: that attention to the thickness of things can help break down distracting dichotomies like science/technology, idea/thing, and especially developed/underdeveloped. Indeed, the essays all take pains to show that the supposedly modern and the presumptively primitive or traditional are commingled in the society of things.

⁶ Bruno Latour, *Aramis; or, The Love of Technology*, trans. Catherine Porter (Cambridge, Mass.: Harvard Univ. Press, 1996); Lorraine Daston, ed., *Things That Talk: Object Lessons from Art and Science* (New York: Zone, 2004); and Jessica Riskin, ed., *Genesis Redux: Essays in the History and Philosophy of Artificial Life* (Chicago: Univ. Chicago Press, forthcoming).

⁷ Ken Alder, “Making Things the Same: Representation, Tolerance, and the End of the Old Regime in France,” *Social Studies of Science*, 1998, 24:499–545.

⁸ François Blondel, *L’art de jeter les bombes* (Leyden, 1685), preface; Clifford Geertz, “Thick Description: Toward an Interpretive Theory of Culture,” in *The Interpretation of Cultures* (New York: Basic, 1973), pp. 3–30 (Geertz borrowed the term from Gilbert Ryle); and Gaston Bachelard, *Le nouvel esprit scientifique* (Paris: Presses Univ. France, 1949).

⁹ See the papers introduced by Bill Brown, “Thing Theory,” *Critical Inquiry*, 2001, 28:1–22.

John Tresch's essay suggests how we might extend Martin Heidegger's ode in praise of the singularity of gathered eventful (artisanal) things to those technological objects that Heidegger came to revile: thin mass-produced (modern) things conceived as mere utility. As a guide to a world of worldviews that are not themselves totalizing, Tresch proposes the study of those *mappemonde* things called cosmograms—a species of post-Romantic Ikea kits for building a new *Weltanschauung*—and shows how the reading of cosmograms might help us recapture a multiplicity of technological worldviews. Gabrielle Hecht's essay takes up uranium, a member of that class of things (atomic elements) reputed by Bachelard to be so thin as to be ontologically identical to every other object in its class. Yet as Hecht shows, the ways uranium acquires the quality of "nuclearity" involve the geopolitics of the modern and the primitive, while the distribution of that nuclearity in things enables endless disruptions in geopolitical bodies and human bodies. Wiebe Bijker's essay likewise disentangles the misleading dichotomy of the developed and the underdeveloped by charting the course of water projects around the globe: in India, the United States, and the Netherlands. Bijker conveys the density of know-how, practices, and politics that makes water-bearing vessels particular products of historical circumstances, even as he shows how ancient forms of knowledge carry lessons for modern projects and that the fates of modern systems are emblematic of the politics that build and maintain them. My own essay juxtaposes two things passed off as "gadgets"—the atom bomb and the lie detector. The bomb is said to be exemplary of technoscience at its most destructively functional; the lie detector is often dismissed as modern-day witchcraft, yet—ironically—it is used to safeguard atomic know-how. As I show, both gadgets are technologies whose principal product is their own credibility, a form of performance that proved constitutive of American sovereignty in the era of the Cold War, as it still does, perhaps, in our own. And Bruno Latour sums up. Although none of these essays are fables in the mode of "Once upon a time," they do together constitute a cycle of tales from beyond the bounds of what is merely "technically so."