stale, even if the content does not. The witty departures in *Mapping America* are always a welcome sight, including illustrator Saul Steinberg's cheeky *View of the World from 9th Avenu*e, a "non-map" that uses forced perspective to mock the myopia of New Yorkers. In light of Steinberg's clever dig, it is perhaps ironic that *Mapping New York* doesn't suffer from the same minor shortcoming of repetitious perspective – nor does it focus too intently on one time period or another, as many atlases of New York do (often by design, as in Eric Homberger and Alice Hudson's popular *Historical Atlas of New York City* or Eric Sanderson and Markley Boyer's dazzling *Mannahatta* project). *Mapping New York* is instead a cartographic meditation on the city from as many angles and perspectives as its page length allows; the maps it contains zoom out to the Tri-State region, zoom in to a few city blocks, shift focus to one of the boroughs, and reveal the subterranean in both expected (e.g., Massimo Vignelli's iconic 1972 subway map) and unexpected ways (e.g., Paula Scher's *NYT Transit*). The inclusion of Françoise Schein's 1985 subway-map sculpture embedded in a Manhattan sidewalk exemplifies the surprising points of view on display here. Expanding the points of view still further, the chapter "Living in the City" presents two instances that call attention to the portability and context-awareness of the mapping platform itself – in this case, Stephan Van Dam's information-rich folded pocket map and Google Maps as displayed on an iPhone screen.

Mapping America and *Mapping New York* are part of a Black Dog series that includes *Mapping England*, *Mapping London*, and the forthcoming *Mapping Paris*. If the two volumes reviewed here are any indication, one can expect the others to exhibit a sharp attention to detail in their overall design, and likely in the choices and reproduction of the maps themselves. Though I have small quibbles with the lack of historical breadth in two of the chapters, these are more than offset by the quality of the books' other aspects. I recommend both volumes to *Cartographica* readers with interests in the history of either the United States or New York City, and to those looking to trace the use of some common cartographic approaches as they've been applied within American mapping practices since the Columbian encounter.

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CODE/SPACE: SOFTWARE AND EVERYDAY LIFE / Rob Kitchin and Martin Dodge. Boston: MIT Press, 2011. Pp. 320; 69 figs. (45 b&w); 7¼ × 9¼″. ISBN-13 978-0-262-04248-7 (cloth), $35.00, £24.95. Available from MIT Press, http://mitpress.mit.edu/

Code/space represents a valiant attempt to usher the field of software studies into being. Rob Kitchin and Martin Dodge's co-written book succeeds in this self-proclaimed mission (p. 246) in many ways. My main hesitations about this book, however, revolve around limitations to the mission of software studies as a newly emerging field and not around the soundness of the methodology Kitchin and Dodge use in their comprehensive survey of the manifold effects of code on everyday lives in the modern world. While that methodology is indeed rigorous, its rigour exists within a flawed theoretical framework.

That framework is both functionalist and post-structuralist. The theoretical underpinnings of *Code/space* therefore tend to be both cognitivist and deterministic. Algorithmic and iterative cognitive modes of being come to define humanity in and through code, according to Kitchin and Dodge's analysis, which, I argue, reduces human activity to a behavioural black box of inputs and outputs. Furthermore, Foucaultian regimes of code operate at all scales in an all-pervasive manner that is seemingly impossible to escape. Modes of resistance are thus primarily subversive and transgressive (p. 241) and rarely productive in the sense of production of codes in the plural by empowered (and not merely "activated") moral agents.

Telling in this regard is the absence of any notion of production of space (cf. Henri Lefebvre; though in the authors' defence, David Harvey is briefly alluded to but not listed in the index). Judith Butler, Gilles Deleuze, and Michel Foucault are referenced to buttress claims that code and space are in a mutually constituted (p. 74) state of becoming that is gradually fading into the background of everyday life even as they increasingly determine human activity and thought (cf. Louis Althusser, who is mentioned many times). Asserting these claims repeatedly throughout the book, without any robust account of resistance, amounts to saying that the system isn't determined enough; that it should be doing a better job with better coverage; in essence, that coders (the anonymous producers) should write better code.

Given that there are no spaces outside code (except for the occasional transgressive ruptures), the unstated conclusion of this book is implicit from the beginning: there is no alternative to code.

Aspects of this book are highly debatable and probably flawed. For instance, the discussion of Moore's Law is overly simplistic, if not wrong, in stating that an increase in information storage density "shows little sign of slow-

ing down in the near future" (p. 102). According to *The Economist* ("Plugging the Leaks" 2011, 71), memory densities will soon be running up against a wall: the size of a single atom. It is simply not possible to store more and more information *ad infinitum*, given universal physical constraints, despite exciting and mind-boggling innovations in quantum computing.

The limitations of this book stem from what I call "information kitsch," or the science-fictionalization of technology studies that look only to the future. Almost inevitably, when that future arrives, all bets are off, as the speed and direction of innovation quickly render predictions (and the books and authors that made them) obsolete. I cannot help feeling that current models of book publishing (especially as epitomized by the hasty and poorly edited books we sometimes get from MIT Press) are in fact geared in just such a way. In fact, we already know most of the material covered in Code/space, now packaged in fancy new terminologies such as "capta," which is a measurement or profile extracted from a larger body of data. But this raises the question of regress: How many levels of extraction or refinement will we name in a world in which both are infinitely possible but not always sufficient or even necessary?

In other words, this book suffers too much from what I would call a *Matrix* complex. Code is everywhere, all-pervasive and inescapable, and it is impossible to tell when we are ensconced in code and when we are not. This is a fundamentally conservative proposition, and also a fairly common-sense one: we already know and are disturbed by the incursion of instrumental reason (not just code) into everyday life.

Kitchin and Dodge cover three aspects of everyday life in which object definitions and insights are explored: air travel, the home, and consumption. Here one of the strengths of the book comes to the fore, namely the authors' typology of coded objects, essentially a spectrum of objects categorized by the degree to which they depend on code, they are infused with code, or code is essential to their primary functions. The labels for these types of objects, however, are clunky: for instance, "logjects" are self-aware objects that keep activity logs upon which future actions can be adjusted or based; "codejects" are simply code-dependent objects.

The observation (p. 132) that networked and coded technology democratizes and overcomes scale limitations (i.e., the limited staff now necessary to oversee essential daily functions) suffers from the same irony as, for example, self-published online poetry or fiction. The self-published are newly empowered by Internet and Web 2.0, resulting in a sea of self-published creative writing that (like people supposedly empowered by code) languishes in obscurity. According to this analogy, the de-materialization (coding) of everyday life, like the de-materialization of paper books, and the ease of wide distribution enabled by that de-materialization simply recapitulate the same process at a much wider scale. Paper books and the elderly alike always had the potential, and always will have the potential, to languish in obscurity.

In summary, this *Code/space* is essentially a discussion of technology taken at a snapshot in time, masked as a discussion of code. Broader historical or evolutionary contexts of code production are left out. Because of this limited (and ultimately limiting) framework, this book anticipates its own speedy obsolescence as the rapid evolution of coded objects proceeds apace. The whys and wherefores of technology seem to be deemed irrelevant. One would do much better (like Latour 1987 or Poe 2011, to name two books with a lot more explanatory power than this one) to take a step backward (in history or evolution) to gain the necessary perspective for diving into the very complex and contested terrain of technological development.

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VISUAL COMPLEXITY: MAPPING PATTERNS OF INFORMATION / Manuel Lima. New York: Princeton Architectural Press, 2011. Pp. 272; illus. (250 col., 65 b/w); $10.6 \times 8.6 \times 1''$. ISBN-13 9781568989365 (cloth), US$50.00.

The online repository Visualcomplexity.com collects a range of projects on the visualization of complex networks that have emerged from such disparate disciplines as art, biology, computer science, and social networks. Since its inception in 2005, this repository has collected more than 700 projects, the earliest dating back to 1920. This is probably the most comprehensive repository or online gallery on information visualization. Now the founding editor of the repository, Manuel Lima, has assembled a colourful book on the visualization of complex networks. This book goes beyond the initial effort of showcasing the visualization of complex networks by adding a broad background of the network metaphor, focusing on how it was developed and how it, as well as network thinking, was adopted in science, design, and art. The book cuts across two emerging and rapidly developing fields: information visualization and complex networks.