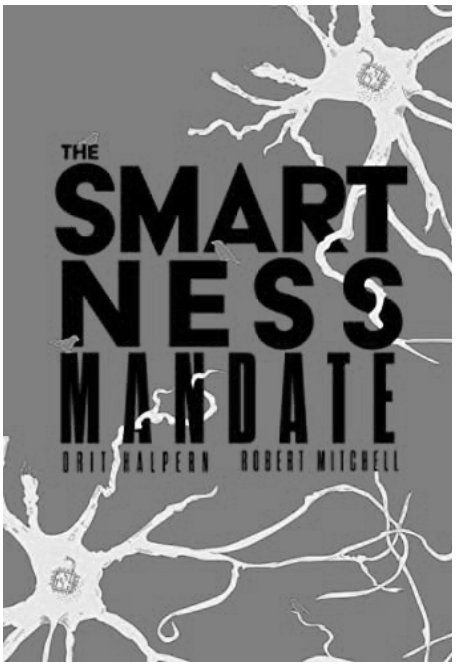
Riley Gold

Book Review of *The Smartness Mandate* (2023)



Cambridge, MA: MIT Press, 2023
ISBN: 9780262544511
$35.00

Today, "smart" objects and infrastructures are seemingly everywhere—from homes to cities, watches to warehouses, mines to forests. One recent example is the Lake Nona development near the Orlando International Airport in Florida. It markets itself as a "Living Lab Community" with smart city features, including an autonomous shuttle program, pervasive 5G connectivity, and business innovation hubs.[1] As the geographer Gillian Rose writes, humanities scholars tend to approach case studies such as Lake Nona in one of two ways.[2] They either subject the "dominant cultural texts" of the development to formal analysis, casting doubt on the fully-automated, business-friendly futures projected in architectural renderings, promotional videos, and other advertising materials. Alternatively, scholars may adopt a more techno-dystopian tone, asserting that the "machinic intelligence" of big-data infrastructures produces environments of cold, managerial control. Here, all-encompassing surveillance and a relentless drive for optimization evacuate the urban of its social creativity and democratic potential.[3] To Rose, the point is not that either account is wrong but rather that scholars who enter this loop of critique—smart or dumb, imaginative or unimaginative—make little theoretical headway on how digital technologies shape, or might potentially shape, culture and governmentality today.[4]

Orit Halpern and Robert Mitchell's *The Smartness Mandate* (MIT Press, 2023) breaks the loop through its framing of "smartness" as a historically contingent epistemology.[5] When and how, the authors ask, did technologies and environments become "smart" in the first place? Where is smartness enacted, by whom, and to what ends? What material differences do its techniques and logics make in the world?[6] For Halpern and Mitchell, answering such questions involves situating more recent developments in artificial intelligence (AI) and responsive environments within broader 20th-century, mostly American histories of economics, ecosystem science, psychology, computing, and urban planning. Teasing out the various "premises, technologies, and dispositifs" that have coalesced into smartness, in turn, opens up a space for reflection about how "networked computational technologies can be used to other ends."[7]

A fundamental argument of the book is that the desire and even imperative to make everything smart emerged alongside a vision of the future characterized by unpredictability and risk. Smartness, in short, promotes systemic resilience through data-intensive practices in an uncontrollable world. What the authors define as the *smartness mandate* is a logic for the ongoing management of crises that cannot be known in advance; it thereby calls for "smartness to be extended to all areas of life" by spatially distributing computational technologies that sense and respond to their environments in

Jelena B. Ćulibrk, Editor, Spectator issue 44.2 (Fall 2024): 58-61.

real time.[8] Smart systems harness the collective intelligence of populations to experiment and evolve while reproducing the necessary conditions for their own survival. Whether facing the economic volatility of global finance or the environmental crises of the Anthropocene, the smartness mandate proposes "a single form of response—namely, increased penetration of computation into the environment."[9]

Readers familiar with Halpern's previous book, *Beautiful Data: A History of Vision and Reason Since 1945* (Duke University Press, 2014), might approach *The Smartness Mandate* as a sequel. Together, they chronicle the lasting impact of postwar cybernetics and information theory on naturalized ways of seeing, knowing, and governing in the twenty-first century. Yet if *Beautiful Data* is dizzyingly recursive in form, encouraging its readers to trace their own meaningful patterns amidst an abundance of information, *The Smartness Mandate*, while no less rigorous, guides the reader along with clear signposting and summarization. This authorial style may owe much to Mitchell, a professor of English whose writing spans art, science, and biopolitics in the 18th century and the present. Overall, the emphasis placed on rendering complex conceptual and technological histories legible makes *The Smartness Mandate* essential reading for seminars in media, urban, or science and technology studies.

In the book's introduction, Halpern and Mitchell outline the key terms for understanding the smartness mandate. Each chapter then offers a genealogy of these concepts and practices, interspersed with *excurses* on relevant case studies that extend beyond American contexts to demonstrate both the global scale of smartness and its appropriations and other potential meanings. Chapter 1 addresses *populations*, a term that, in the context of smartness, refers to "entities that learn (or at least evolve) by responding to changes in the environment."[10] This definition can be traced to 1930s–1950s evolutionary biology and neoliberal economics. In the case of the former, biologist Ernst Mayr's work on speciation asserted that genetic differences within a local population allow it to evolve when faced with environmental change.[11] Independent of Mayr, the economist Friedrich Hayek also theorized markets "as population-like units of quasi-learning."[12] Hayek's anti-expert, anti-centralization argument proposed that individual economic actors can never claim a total perspective on the market, but the market itself might operate "as a population-level information processor."[13] By transforming social relations into market relations, the market would "harness the collective intelligence enabled by large populations of unique individuals."14 Early AI researchers such as Frank Rosenblatt drew from Mayr and Hayek to develop their own theories of machine learning and neural nets. From the 1980s onward, computer scientists proposed that networked populations produced modes of collective intelligence that could respond "to any form of problem or crisis that might present itself."[15] The question of how automated, population-level smartness relates to the deliberative reasoning of democratic governance is left as an open question.

Chapter 2 describes the territory of smartness: the *experimental zone*. It begins with MIT Media Lab founder Nicholas Negroponte's 1960s–1970s proposals for "architecture machines" and his directive to "demo or die."[16] Negroponte believed that the social conflicts of the so-called urban crisis in the US could be resolved through perpetual computer-aided experiments or *demos* at every architectural scale. The city was, therefore, reconceived as a quasi-biological entity whose adaptive learning, rather than relying on "institutionally validated expertise," would be guided by ubiquitous, population-level computing.[17] Notably, Negroponte's framing of cities as sites of constant evolution abandoned an earlier "imaginary of planning [rooted in] ideal or utopian forms."[18] Instead, smart infrastructures incorporate the behaviors of residents into a supposedly self-organizing environment that does not distinguish between types of threats or link its operations to shared history or memory. The solution to all crises is not traditional planning but the "computer-mediated micronegotiations among isolated urban individuals."[19]

Chapter 3 turns to *derivation*. While many smart technologies are framed in terms of efficiency and optimization, a system maximally optimized for a particular goal is less adept at dealing with uncertainty or volatility. When risk and informational noise are normalized

as ineradicable, however, they can become sites of betting and value creation. Halpern and Mitchell look at derivative financial technologies with a particular emphasis on the Black-Scholes option pricing model: a 1970s mathematical equation that extracts value from the volatility of a stock price in relation to the random fluctuation of all stocks in the market as a whole. Today, derivatives markets overwhelm the world's gross domestic product,[20] mining the market's informational "noise" in a manner that "displaces labor and the material world."[21] Thus, smart infrastructures afford pervasive monitoring and calculation that recast an unpredictable environment as an arena for potentially unlimited betting. If derivatives generate complex new relations between members of a population, Halpern and Mitchell suggest that we embrace uncertainty as a principle and mobilize these new relations toward other ends "less amenable to the strict market logics of neoliberal economics."[22]

Finally, Chapter 4 offers a genealogy of *resilience*: the "goal and raison dêtre" of smartness.[23] Emerging from ecosystem science, especially the work of ecologist C.S. Holling, and later spreading to business practices and climate policy, resilience is not about returning or steering a system to an ideal homeostatic state. Rather, the system shifts its objectives and behaviors so that it can evolve from crises. Indeed, "as occasions for further learning," crises theoretically enhance the resilience of a system by preparing it for the management of future disasters.[24] Resilience celebrates "heterogeneity and diversity" within a system because it affords "a *surplus* of functions" that allow it to withstand shocks—although such disruptions can entail the sacrifice of "some lives and populations" in order to ensure its ongoing operation.[25] Informed by the work of media theorist Kara Keeling, Halpern and Mitchell propose that resilience might still be recuperated as "a call for multiplicity and for futures not yet known" if it can be thought of in ecological terms beyond "the optimizing demands of capital."[26]

Ultimately, Halpern and Mitchell believe in the "weak messianic potential" that smartness and its attendant concepts and practices still offer.[27] The authors are less interested in dismantling smart infrastructures in general than speculating about how to enrich and organize around the novel forms of relation that environmentally distributed computing engenders.[28] What Halpern and Mitchell term the *biopolitical learning consensus* would entail human-computer learning processes with different relations to democracy, history, and memory than contemporary smartness; such processes would "remain open to different perspectives on what constitutes rationality and what counts as learning."[29] Nevertheless, a question that haunts the book is when, if ever, a concept or technology integral to smartness should be abandoned altogether. Whether or not one agrees with the authors' conclusion about technological change, *The Smartness Mandate* is a valuable genealogy of how smartness became pervasive, championed, and mandated as a solution to the polycrises of our present. By refusing easy condemnations, the book pushes media scholars to reflect on what smartness could still mean and what sociotechnical histories are worth recuperating in order to bring those futures into existence.

Riley Gold is a Ph.D. student in Cinema and Media Studies at the University of Southern California. He researches histories and theories of automation as they relate to media and environments. He holds a research M.A. in Media Studies from the University of Amsterdam.

Notes

1 "Lake Nona Fact Sheet." Lake Nona. May 2023. https://www.lakenona.com/wp-content/uploads/2023/05/May2023_LN-Fact-Sheet-v2.pdf

2 Gillian Rose, "Smart urban: imaginary, interiority, intelligence," in Routledge Companion to Urban Imaginaries, edited by C. Lindner and M. Meissner (Abingdon: Routledge, 2019), 105-112.

3 Rose, "Smart urban," 109.

4 Rose, "Smart urban," 110.

5 Orit Halpern and Robert Mitchell. *The Smartness Mandate* (Cambridge: MIT Press, 2022).

6 Halpern and Mitchell, *The Smartness Mandate*, 6.

7 Halpern and Mitchell, *The Smartness Mandate*, 218.

8 Halpern and Mitchell, *The Smartness Mandate*, 5.
9 Halpern and Mitchell, *The Smartness Mandate*, 32.
10 Halpern and Mitchell, *The Smartness Mandate*, 36.
11 Halpern and Mitchell, *The Smartness Mandate*, 44.
12 Halpern and Mitchell, *The Smartness Mandate*, 38.
13 Halpern and Mitchell, *The Smartness Mandate*, 55.
14 Halpern and Mitchell, *The Smartness Mandate*, 66.
15 Halpern and Mitchell, *The Smartness Mandate*, 70–71.
16 Halpern and Mitchell, *The Smartness Mandate*, 80.
17 Halpern and Mitchell, *The Smartness Mandate*, 81.
18 Halpern and Mitchell, *The Smartness Mandate*, 91.
19 Halpern and Mitchell, *The Smartness Mandate*, 117.
20 Halpern and Mitchell, *The Smartness Mandate*, 129.
21 Halpern and Mitchell, *The Smartness Mandate*, 154.
22 Halpern and Mitchell, *The Smartness Mandate*, 166.
23 Halpern and Mitchell, *The Smartness Mandate*, 22.
24 Halpern and Mitchell, *The Smartness Mandate*, 207.
25 Halpern and Mitchell, *The Smartness Mandate*, 197.
26 Halpern and Mitchell, *The Smartness Mandate*, 217.
27 The authors use the term "weak messianic potential" in reference to Holling's ecological epistemology, but it can be applied to smartness in general. Halpern and Mitchell, *The Smartness Mandate*, 32.
28 Halpern and Mitchell, *The Smartness Mandate*, 229.
29 Halpern and Mitchell, *The Smartness Mandate*, 220.