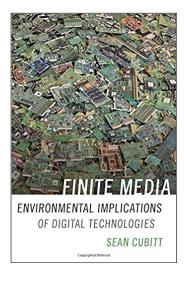
Sean Cubitt, **Finite Media: Environmental Implications of Digital Technologies**, Durham, NC: Duke University Press, 2017, 244 pp., \$84.95 (hardcover), \$23.95 (paperback).

Reviewed by Cynthia Chris College of Staten Island CUNY, USA

One of the most seductive myths promulgated by Hollywood, Silicon Valley, Madison Avenue, and other media capitols is that media transcends physical materiality via electrical impulses, projected light, and flickering pixels. In *Finite Media: Environmental Implications of Digital Technologies*, Sean Cubitt promises to bust this myth and to offer the possibility of new environmental politics that require "a revolution in communications" (p. 12). The task is formidable. The myth of immaterial media has been with us ever since electronic media first started flinging messages from place to place. As soon as Samuel Morse's telegraph was up and running, an awestruck commentator at *The Baltimore Sun* declared in 1844 that "time and space has been completely annihilated" (Rosen, 2012, para. 9).



Matter hasn't seemed to matter since. Cinema is a "dream factory" (Powdermaker, 1950), television is a "window to the world" (Hutchinson, 1946), and the Internet is an information superhighway that stretches into cyberspace. In these metaphors, mass media is an immaterial portal. And yet, as a small cadre of media scholars has begun to show, the apparatus of production, distribution, and exhibition are anything but immaterial. Uncountable ribbons of celluloid and millions of miles of cable carry media content. Space junk splinters off from communications satellites. Minerals from conflict zones and environmentally vulnerable sites end up in electronic devices. Discarded devices pile up in landfills, where they leech toxins; those that make it into recycling streams poison poor workers in developing nations who burn out precious metals.

Finite Media is a welcome addition to the growing literature on the disastrous environmental consequences of the practices of media industries, which, in this regard, are perhaps no better and no worse than aeronautics or automotives, factory farming or mining (and in many ways, Cubitt shows how deeply the media industries are entangled with other modes of production). But media enjoy a unique, purportedly dematerialized status in contrast to those other markets of *things*.

Scholars working in Cubitt's vein are working hard to look behind seductive screens to expose what goes into making media hardware and software. Until recently, media studies haven't gotten their hands quite so dirty—and it's high time. Richard Maxwell and Toby Miller's (2012) *Greening the Media* is perhaps *Finite Media*'s closest competitor¹ (see also Bozak, 2012; Maxwell, Raundalen, & Vestberg, 2015).

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¹ Garret M. Broad reviewed *Greening the Media* in *International Journal of Communication*, 7(2013), Book Review, 1159–1161.

That volume, full of facts about the harms caused by the extraction of raw materials that become components of beloved devices and the conditions of workers who assemble them, was startling and timely. It also begged for updates almost immediately. The authors provide one of a sort, in the form of a blog also called "Greening the Media" on *Psychology Today's* website (Maxwell & Miller, 2012–2018).

Cubitt's first two chapters, "Energy" and "Matter," dive deeply into the material resources that support the communicative and media industries. In "Energy," he reminds us that there are no new materials, no newly created sources of energy, but only the cyclic flows of extraction, recombination, and waste, whose negative externalities have been, literally, dumped on the Global South (p. 14). The chapter begins with a glimpse at the tremendous power usage of data centers that support cloud computing and other growing functions. Where do these centers get their power? Typically, from fossil fuels. As Cubitt shows, extraction of coal, oil, and natural gas wreak environmental havoc, their burning threatens public health, and their gluttonous markets exacerbate inequality and motivate wars. Nuclear power plants do not provide safe alternatives; Cubitt calls that idea "idiocy" (p. 59). The toxic results of mining uranium and disposing of radioactive waste have disproportionately impacted indigenous populations in the United States and Australia. Hydroelectricity, too, is not without risks, among them, human displacement and deforestation. It is, as Cubitt indicates, the power of megaconglomerates and the prevailing "logic of profit" (p. 61) that rationalizes worldwide tolerance for infrastructural systems that do so much damage in the course of doing business—and suppress more sustainable forms of energy development.

Chapter 2, "Matter," at almost 90 pages, is weighty like its subject. Here Cubitt pairs a survey of material uses by the media industries with a section on governance of them. Surveys of the degradation caused by mining, use, and disposal of bulk metals (the lithium, bauxite, iron, tin, gold, lead, gallium, indium, and arsenic that become electronic components) and their supposedly greener counterparts (fiber-optic glass, bioplastics) occupy much of the chapter. Later, Cubitt's sections on the global governance of waste and the Internet—largely by nongovernmental organizations such as the World Bank and units of the United Nations—show the extent to which "governance" has antidemocratically served corporate interests, further empowered the wealthiest nations, and diminished the input of developing nations and First Peoples, in a manner he characterizes as "a continuation of coloniality by other means" (p. 150).

Chapter 3, "Eco-Political Aesthetics," asks, "So how are we going to get out of this mess?" (p. 151). Good question. Thus far, Cubitt has painted a portrait of a system so diffused, so totalizing, that it would suffocate on its own soot before altering its ways. Here and in chapter 4, "Ecological Communication as Politics," Cubitt draws on Chantal Mouffe, among others, to argue that such a system hurtles along, stifling dissent, fueled by apparent consensus that is manufactured only through exclusions. The answer seems to be nothing short of a wholesale renovation of the notion of politics, and a "radical overhaul of the distributed benefits—education, health, and justice—that constitute the good life, the goal of politics" (p. 172). If most of us have operated on the assumption—the hope—that society, and even the polity, was becoming incrementally more inclusive, making more or less progressive steps, Cubitt protests. Far too much of life has been subject to "enclosure" (p. 8), such that land, sea, air, and life itself have become commodities. Even our creative endeavors are enclosed as (intellectual) property. Society, it turns out, is "not the solution but the problem" (p. 168): "The neoliberal formation of society distances the

social from its own constituents, replacing commonwealth with private property and manic accumulation. The social . . . is subsumed into instrumentalized technology while excluding the organic environment" (p. 168). In place of co-opted society, Cubitt proposes truly "ecological politics" based on "ecological communication" (p. 169). In short, the "good life" cannot continue to accrue only to the few, or even only to the human. It must include the good of "nonhuman participants" (p. 173) and literally, the earth itself.

How might we go about practicing politics that are so radically inclusive? It is not, for one thing, simply opening the door to "the economic realm" to the marginalized, "nor is it a matter of enfranchising into an otherwise unchanged polity" (p. 172). Following Hannah Arendt and Jacques Rancière, in various ways, Cubitt reminds us that a system built to include some can always exclude; rights than can be assigned can also be denied (pp. 174–75). Instead, he calls for "a completely unprecedented commons" (p. 180) not subject to but fully in opposition to the market-driven polis, accomplished at least in part through a radically open communicative environment, "communing with all the 'we's' who form our planetary commons" (p. 199). Easier said than done, and *Finite Media* tells us less about how to move forward than that we must.

Accordingly, Cubitt's tone at times is apocalyptic. And why shouldn't it be? Environmental news is rarely good, and often desperate.² The extent of overproduction, overconsumption, resource depletion, and mounting harmful waste is inarguably daunting. To suggest just how destructive the juggernaut of capitalism, the engine of environmental degradation, is, Cubitt offers the image of the cyborg (p. 72). For instance, drawing on Marx, Cubitt describes the lithium-ion battery as a "social hieroglyphic" embedded in networks that "present themselves to humans in the form of a movement made by things, and these things far from being under their control, in fact control them" (p. 65). But hopelessness is not Cubitt's bailiwick. He recognizes it, to be sure:

The grave fear that greets us at the entrance of this particular inferno is . . . the belief that there is no exterior to the combined cyborg grids of fossil, hydroelectric, and nuclear fuels, electricity markets, and globally networked digital media. (p. 62)

He can only hint at what it might mean to go outside monopoly capitalism, at least in terms of energy markets: "domestic wind turbines on the roof alongside the TV aerial, a return to local wind and water mills" (p. 61). In other words, get off the grid. Again, easier said than done. Cubitt may not show us a clear path out of the current unsustainable impasse between the appetites of capital and the health of the planet, including its humanity, but he surely demonstrates the direness of this juncture and the urgency of forging that path.

² While I read the book, newly released studies indicated that the Great Barrier Reef has suffered coral die-off even worse than previously known (Hughes et al., 2018), that the southern mountain caribou is "functionally extinct" in the continental United States (Robbins, 2018), and that the bird population of France has declined precipitously in agricultural regions (Gorman, 2018). Also, David S. Buckel, a civil rights lawyer and environmental activist, committed suicide by self-immolation in Brooklyn, leaving a note that declared that his "early death by fossil fuels reflects what we are doing to ourselves" (Mays, 2018, p. A25) on a much larger scale.

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