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Jessica M. Smith. *Extracting Accountability: Engineers and Corporate Social Responsibility.* Engineering Studies Series. Cambridge: MIT Press, 2021. Illustrations. 328 pp. free, open access, ISBN 978-0-262-36615-1.

Reviewed by Douglas Jones (University of Illinois Urbana-Champaign)

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Commissioned by Penelope K. Hardy (University of Wisconsin-La Crosse)

Perhaps more than ever, we live in the time of the engineer. In the United States alone there are approximately two million engineers in the workforce, well over double the number of physicians. Engineers increasingly helm major US technology firms, and engineering is also one of the fastest growing college majors. The profession is nevertheless strikingly absent from humanistic inquiry writ large. Jessica M. Smith's valuable attempt to take seriously "the everyday lives of engineers," then, is a critical intervention (p. 17).

Acknowledging that engineers employed by corporations in extractive industries like oil, gas, and mining make for "unsympathetic ethnographic subjects," *Extracting Accountability: Engineers and Corporate Social Responsibility* argues against a prevailing view that engineers simply lack an ethical framework and "embody corporate drives for profit" (pp. 16, 10). Instead, Smith turns to an unusual group: engineers who "view social responsibility" as essential to their work (p. xv). Based on interviews with seventy-five or so of these social-minded engineers, Smith argues that the engineers she encountered typically try to do the "right thing" but face "competing accountabilities" stemming from their "distributed agency" as either corporate employees or consultants to corporate clients (pp. 10, 6).

Smith begins by disaggregating the corporate form that engineers commonly work inside. Chapter 2 considers individual engineers as they attempt to reconcile these competing accountabilities without clear guidance from their employer or, Smith emphasizes, any training in how to do so. Having sketched out the nature of the problem, the book then usefully tacks back and forth between empirical case studies and more abstract chapters. Chapters 4 and 5 are ethnographies of how engineers navigate working inside and outside corporate forms, respectively. Chapter 4 offers a nuanced portrait of engineers as not simply either "conformists" or "whistleblowers" but as people who "strategically managed their participation in an extended corporate person," moving between identifying with the corporate form or seeking distance from it, rhetorically or materially (pp. 104, 108). Chapter 5 follows the story to those who left corporate employment to work as consultants. These engineers, Smith says, were the ones most critical of corporations, yet they often found themselves occupying a "liminal status," still dependent on corporations for work and income (p. 138). One of the most arresting and appalling cases in the book illustrates the idea all too well: after graduating with a degree in "ceramic engineering and society," which included courses

in anthropology and women's studies, Lila soon grew bored of designing brick linings for furnaces and attained a master's degree in international development. Lila returned to her previous consulting firm in a sustainable development role, only for upper management to ask her to "cover up human rights abuses" and harassed her when she refused to do so, to the point where she left the firm (p. 144). Smith rightly emphasizes that consulting engineers are ultimately limited in their ability to detach from corporate forms.

Two empirically focused chapters nicely complement this analysis. Chapter 3 is the most historical of the book. Smith's major historical intervention here is to convincingly show that while the 1990s are known as a turning point for a public commitment on the part of extractive corporations to "sustainable development," its roots are properly located in the 1960s and 1970s. During these decades, a parallel boom in the mining industry and in social movements spurred the development of the idea that "good public engagement" could be profitable for the mining business (p. 69). Focusing on the careers of two "engineers-turned-lawyers" working for a major mining firm, Smith details the birth of the now-standard environmental impact assessment and the company's successful campaign to win over critics of a proposed mine in northern Minnesota perilously close to the Boundary Waters Canoe Area as well as skeptical engineers inside the company. Ultimately, Smith argues that success was possible because it "did not fundamentally challenge the dominant professional norm of engineers as creators of financial value for the corporate forms employing them" (p. 96). A similar tension is usefully explored in a chapter on the recent controversy over fracking in Colorado. Smith shows how engineers' engagement in public discussions focusing on "actionable feedback" foreclosed questions about the necessity of industrial development in the first place (p. 164). Engineers typically sought a pragmatic compromise, an approach at odds with more radical critiques.

A pair of chapters endeavor to chart a course forward through this tension. Chapter 7 proposes new frameworks of accountability that more subtly account for engineers' enmeshment in corporate forms, endorsing the viewpoint historian of engineering Edwin T. Layton Jr. expressed in ***The Revolt of the Engineers: Social Responsibility and the American Engineering Profession*** (1986) that engineers could form a "loyal opposition" within corporate forms, providing "internal sources of critique" (p. 216). Finally, an epilogue offers a glimpse of Smith's pedagogy in practice as she relates her "collaborative attempts" to rework corporate accountability "by altering the agencies of the people who constitute" those forms (p. 219). Importantly, a key intervention of Smith's pedagogy is to challenge the longstanding dualism that separates engineering from the humanities and social sciences and diminishes the latter in the process.

Indeed, challenging that binary and seeking nuanced ways to overcome it are the signal contributions of this essential volume. Still, Smith's sympathetic ethnography of those often seen as morally dubious raises questions about the kinds of analyses the book largely foregoes. Aside from a brief discussion of the kinds of harassment and discrimination that frequently forced women to leave corporate roles, the role of gender norms in shaping industries that Smith acknowledges are the "archetypes of masculinist work" is unremarked upon (p. 127). The role of race generally—and whiteness in particular—are likewise disregarded. Smith recognizes that the harms of extraction are disproportionately "borne by poor and minoritized populations around the world" (p. 7). While the question of how those individuals view engineers is outside of Smith's ambit, it remains an open and important question.

Extracting Accountability will be of interest to upper-level undergraduate courses on the history

of engineering and science and technology, as well as to courses offered to engineering students in the spirit of what Smith calls “critical participation in engineering education” (p. 219). Historians and anthropologists of the environment, labor, and business will also find much of value here.

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