CAN BUSINESS SAVE THE EARTH?: INNOVATING OUR WAY TO SUSTAINABILITY BY MICHAEL LENOX & AARON CHATTERJI

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In late 2019 major media outlets reported on the publication of an article in *BioScience* warning of an imminent "climate emergency" (Ripple et al., 2019). At a time when such dire admonitions have become commonplace, the article distinguished itself by its dramatic tone, straightforward graphical indicators, and perhaps most notably, over 11,000 scientist signatories from across the globe. The authors were following up on a similar warning from 2017, two years later painting a picture of a genuine crisis that has proven worse than expected in a shorter amount of time, and strongly recommending clear steps to be taken by businesses, governments, and the general populace.

How exactly the kind of swift and sweeping changes being called for are to be undertaken is a matter of considerable debate. In spite of overwhelming scientific consensus on the matter, the reality of anthropogenic climate change itself continues constantly to be called into question, primarily by sources external to the scientific community with demonstrable political, financial, or even generally contrarian aims (Oreskes, 2018). However for Michael Lenox and Aaron Chatterji in *Can business save the Earth?: Innovating our way to sustainability* (2018), human-influenced climate change is a foregone conclusion and business has a special role to play in confronting it.

Lenox and Chatterji, professors of Business at UVA and Duke, respectively, establish their central conceit at the book's outset: Disruptive innovation in the private sector is the only force powerful enough to drive the kind of large-scale transformation necessary to effectively combat global climate change. To be sure, this is gradually presented as part of a worldwide, systemic effort involving governments, universities, NGOs, and consumers, but at the center of it all stands the free market and its transformative potential.

The skepticism with which many will regard this premise is briefly acknowledged: "Many environmentalists have traditionally viewed the business community, particularly big business, as the primary source of—not the solution to—the critical environmental challenges that we face. There are some important facts on their side" (Lenox & Chatterji, 2018, p. 3). Nevertheless, in spite of the realities of large-scale industrial pollution, production processes that de-prioritize human health, and unsustainable patterns of cultivated overconsumption, the authors maintain that companies with global reach are uniquely positioned to bring to bear the necessary resources and influence to drive the creation and sufficiently wide adoption of sustainable technologies.

In a series of six chapters with such grand titles as "Business as Savior," "Manager as Hero," and "Investor as Visionary," Lenox and Chatterji enumerate ways in which businesses can cultivate the radical commercial innovation they believe is our primary hope for survival. The authors envision a system of overlapping processes involving cooperative effort at every level of business enterprise in tandem with familiar partners like venture capitalists and

incubators/accelerators, as well as such seemingly unlikely collaborators as government regulators and environmental activists. But their primary objects of focus are 'innovators, managers, investors, and customers.'

When discussing innovators, a handful of individual "genius" types are invoked, but Lenox and Chatterji are more interested in the confluence of creative thinking, teamwork, persistence, network externalities, and pure chance that lead to disruptive innovations. A brilliant and potentially impactful idea may well, after all, come to nothing without the resources necessary to develop it, the infrastructure to manufacture and distribute the products the idea informs, or the widespread acceptance of the buying public. "For a sustainable technology to be truly disruptive, it needs to create value for consumers that exceeds alternatives and to do so in a way that creates value for the innovator and his partners in commercializing and scaling the technology" (Lenox & Chatterji, 2018, pp. 59-60). This is, the authors concede, a time consuming process with a staggering number of moving parts.

Managers are admonished to remember that the purpose of business is creating value rather than generating profits, with the quick addendum that without profits a business will be unable to create value. Advice for business leaders is among the muddiest of the book. In fact, the authors have less to say to CEOs themselves than to the reader generally, to whom the constraints under which these executives find themselves are laid out with frustration. They reference "heroic business leaders," for whom we are urged to "create the conditions under which such leaders can thrive and survive" (Lenox & Chatterji, 2018, p. 90), though it is unclear how we are to make such an impact.

According to the 2018 Global sustainable investment review: "Globally, sustainable investing assets in the five major markets stood at \$30.7 trillion at the start of 2018, a 34 percent increase in two years" (Global Sustainable Investment Alliance, 2018). These are hopeful numbers, but Lenox and Chatterji caution that we cannot yet know if "socially motivated investors" will grow to be a large enough force to "drive the level of disruptive sustainable innovation we believe required" (2018, p. 113). It will continue to devolve upon companies to demonstrate to a wide variety of potential funders both minimized risk and the potential for significant financial returns.

Finally we come to the customer—insignificant individually, but powerful in numbers. Problematically they are ostensibly in support of sustainable business practices and products but, in the end, almost always motivated far more by price point. Here the authors see a role for governments and NGOs in educating the public on the real environmental impact of businesses and products, establishing and communicating clear sustainability standards, and generally demonstrating that more careful consumption is ultimately in everyone's interest. Of course lower consumption generally would be ideal, which the authors suggest could be encouraged by "the emergence of radical new business models that redefine markets" (Lenox & Chatterji, 2018, p. 138), but we might be forgiven for skepticism about such a significant shift in human nature.

Lenox and Chatterji maintain a buoyant tone throughout their book, even as they allow the enormity of the challenges posed by climate change and the complexity of their potential solutions. Their unrelenting optimism and unwavering faith in markets to map our most hopeful path to a more sustainable future occasionally raise eyebrows. The companies they hold up as exemplary in the sorts of undertakings the book calls for are problematic paragons. (The goliath transnational Unilever, and Climate Corporation, sold to Monsanto in 2013, as examples.) The

authors cite the 2015 Forbes Global 2000 list to point out that publicly traded companies accounted for nearly half of global GDP in that year. They follow up by noting a 2010 United Nations study estimating that the top 3,000 of those companies caused a full third of the environmental damage attributable to human activity. These are not especial causes for optimism. If lowering human consumption is a fool's errand, how much more so expecting more than a minority of businesses to reconcile the uncertainty of sustainable investment with short-term profits? Of course we could take the position that any and all ideas, at this stage of the game, are welcome. Regrettably, clear, actionable ideas are in short supply here.

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