

INTRODUCTION

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We shouldn't always resist reduction. Our ability to simplify things helps us to interpret complicated situations and make efficient judgments. Many economic models, for instance, attempt to map out complex processes and behaviors using a simplified mathematical framework. By getting rid of the messy details and painting a situation in brushstrokes, complexity can be reduced by convenient tools that assist us in investigating trends and making useful predictions about an often-chaotic world.

But while reduction can be helpful, our inherent tendency to simplify is dangerously seductive. As a college student, I remember listening to our lecturer Or Baron Gil liken economic models to a wrench. A wrench is a useful tool—powerful even—when applied to a bolt. But when applied more broadly, it's inefficient at best and harmful at worst. The tricky part is knowing when and how to simplify, and we avoid that exercise at great expense.

This project began with a manifesto by Joi Ito called "Resisting Reduction." In it, Ito urges us to push back against our tendency to reduce everything, and to embrace the diversity and irreducibility of the world. In particular, he speaks to our current conception of artificial intelligence, suggesting

that we reframe it as “extended intelligence,” and that we apply more diverse measures of success to our future with machines, eschewing our narrow benchmark of economic growth to instead work toward a culture of flourishing.

In an endeavor to embrace the message of the original manifesto, this volume collects essays from others to expand on and probe its ideas, including shining a light on whatever unintentional reduction it might commit. (Even when highlighting the perils of reduction, Ito knew he would be susceptible to veering toward its siren song.) Through an open blind peer-review competition, the editorial team collected 260 abstracts, selected fifty to develop into full essays, published sixteen online in the *Journal of Design and Science*, and selected ten as the competition winners, seven of which are included in this volume.

While Ito’s original piece is powerful, this volume as a whole is even more so. Thoughtful, provocative, and beautiful, the diverse collection of responses gathered here provides an insightful guide to different ways of recognizing and addressing the reduction in our approach to artificial (nay, extended) intelligence, and ultimately to ourselves.

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Some readers might connect this project’s originator to events that roiled MIT in 2019. In the fall of that year, as this very collection was being readied for publication, Joi Ito stepped down as director of the MIT Media Lab. With his affiliation as director printed on the cover, the MIT Press was forced to shred five thousand copies of this text. I feel I cannot write this introduction without acknowledging these events.

In August 2019, Ito published an apology in which he came forth about accepting funding from Jeffrey Epstein, the late

financier and convicted sex offender. The statement attracted a large amount of news media and public criticism, culminating a few weeks later in an article by Ronan Farrow in the *New Yorker*, which alleged—in a reductionist way that should have long since been retracted as more facts emerged—that Ito had attempted to conceal the relationship with Epstein and the donations he received on behalf of the Media Lab.¹ Farrow’s piece caused further public backlash, and the following day, Ito resigned as director of the Media Lab, as well as from all other institutions with which he was affiliated.

Aja Romano defines getting “canceled” as being “culturally blocked from having a prominent public platform or career.”² It is caused by public backlash to someone’s behavior. The term “cancel culture” has been criticized as a catchall used to delegitimize the voices of the harmed. It also hasn’t been as career-damaging as sometimes portrayed, with many of the people who have been publicly called out suffering only a temporary dip in their livelihoods. But the broader point I want to make is that using public backlash as a tool for change is sometimes reductionist.

Don’t get me wrong: cancel culture has plenty of justification. At the same time that Ito came forward about the Epstein funding, I was struggling through an internal sexual misconduct investigation at MIT. In June 2019, I had formally reported that my direct supervisor at MIT had slipped his arm around my waist and pulled my body close to his. I detailed how I had tried to end the hug while he grasped me tightly and kissed my cheek, close to the mouth, multiple times, massaged the top of my hip with his hand, and said the words “Don’t worry—I’ll take care of your career.”

While I believe that those accused of sexual misconduct should be protected against baseless accusations, I’ve personally

experienced the maddening frustration of an internal process that attempts to be “fair” yet makes it nearly impossible for anyone who reports sexual misconduct to prevail. The data shows that this behavior—and worse—remains a massive problem at universities.³ Those who have suffered, and continue to suffer, these abuses are justifiably angry; and even more so when they’re told not to speak ill of the people who have harmed them until the deeds are “proven.” Often, cancel culture is the only tool available to those who have been consistently denied justice. Cancel culture needs to exist in certain contexts right now, because, in the complete absence of any adequate solutions, it lets us expose, disarm, and deter some of the harm.

At the same time, let’s be clear-eyed about how and when this wrench is inefficient. In the Epstein case, we need to face a difficult truth: Ito’s departure removed none of the reasons the harm was allowed in the first place, and may have even created a larger barrier to exposing it.

The backlash from the *New Yorker’s* allegations caused Ito to step down from all of his positions at MIT. However, next-day reporting and a later investigation both revealed errors in the piece and a messier truth: Ito hadn’t attempted to conceal the donations as alleged, but rather had continuously disclosed information to MIT’s senior leadership, who permitted the donations and instructed him to keep them anonymous.⁴ Contrary to popular belief, no policy was violated, meaning the university enabled this donor. Yet the news that MIT’s senior leadership was complicit in accepting funding from Epstein received comparatively little interest from the media or the general public.⁵

As Vafa Ghazavi argues in “Systems Justice, AI, and the Moral Imagination” (chapter 7), we need to hold people accountable, but also think in terms of incentives and culture, and more

holistically than simply unleashing our moral judgment on good and bad actors. It's ludicrously unfair to ask those who have been harmed to do this labor. At the same time, if we focus the majority of our attention and effort on an individual enabler, we may never see the change we deserve.

I believe this is especially true in the case of the Epstein money. Science fundraising comprises a system of incentives that too easily and too often lead to morally questionable funding sources and quid pro quos. Universities depend heavily on private donations, with some institutions needing to raise well over a million dollars a day.⁶ Private money is what lets schools like MIT provide world-class research and education programs, but it makes them beholden to private donors. Influential networks like Edge, which connects scientists to billionaires, are often boys' clubs, and enablers of abuse.⁷ Yet their positions as powerful gatekeepers remain comparatively unnoticed and unchallenged.

To discover during my ongoing sexual harassment case that the Media Lab had also enabled a network that caused so much harm to women was horrifying. And yet, as I've explained elsewhere, I believe that the most effective path forward would have been to hold Ito accountable, not by calling for his resignation but by calling on him to be a desperately needed ally for change.⁸ It takes a long time to amass influence at an institution like MIT. During nearly ten years at the Media Lab, I often witnessed Ito take risks to put his support behind what he knew was right, without expecting or receiving credit and sometimes at personal expense to himself. My sexual harassment case was the final instance of this I would bear witness to at the Institute.

Ghazavi offers an apt description of the problem: We take individuals to task when their actions rise above a threshold

for wrongdoing, but we do little to address the systemic harm. He writes, “The default becomes to blame a few exceptional wrongdoers, such as those most clearly linked to the endpoint of harm, rather than to see the wholeness of the situation.” Ghazavi suggests a way forward by focusing on our collective moral responsibility, citing political theorist Iris Marion Young: “All those who contribute by their actions to structural processes with some unjust outcomes share responsibility for the injustice.”

In the Epstein case, Ito stepped forward to take responsibility for a grave injustice. He was publicly flame-torched and then the issue was dropped. The worrying trend that remains is that universities will keep doing the same old business. In the wake of this scandal, the incentives are set for them to double down on hiding, denying, and—if caught—finding a scapegoat. Because we know that’s all that’s needed to satisfy the public. Because we’re not demanding anything more nuanced than for a head to roll. Because we’re not demanding solutions to the systemic problems in university fundraising and the participation in misogynist networks of influence and power. After all, that would be really complicated.

This is not a defense of Joi Ito’s actions or his part in upholding a system that enables harm and abuse. It is a condemnation of that system and a call to all of us, especially those of us with a relative amount of power, to think about how to most effectively dismantle it.

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When I was approached by the MIT Press, I thought long and hard about whether to write this introduction. I didn’t make the decision lightly, and I certainly didn’t do so without thinking of those who have been harmed, and how this part of the

story doesn't center them the way our main narratives should. I decided to write it nevertheless, because I feel the consequences that played out in the wake of the Epstein debacle are so deeply (and ironically) interwoven with the subject of this book: reductionism. And with what we might reflect on, and learn from, an attempt to resist it.

The biggest question this book poses is: How do we fight for true and lasting change and resist our inherent temptation to simplify, to see things in black and white? Whether in our responses to harm or in the future of the technology we're building, this is possibly the biggest challenge we face: understanding when wrenches are useful and setting them aside when not. In Ito's reflections in the appendix, he acknowledges that reduction can have utility. Still, he says, the truth is deeper than that. I think this is right. I believe the hard truth is that if we, as a society, want to create real change and a better future, we need to resist some of the reduction around us, and do whatever is in our power to push for broader solutions. May this book, *Against Reduction*, guide us in recognizing some of the complex systems we operate in, so that we can start working our way toward a better world.

Notes

1. Ronan Farrow, "How an Élite University Research Center Concealed Its Relationship with Jeffrey Epstein," *New Yorker*, September 7, 2019, <https://www.newyorker.com/news/news-desk/how-an-elite-university-research-center-concealed-its-relationship-with-jeffrey-epstein>.
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5. And within MIT, student protests and sit-ins against the administration went largely ignored.
6. Jeffrey J. Selingo, “The Blessing and Curse of Fundraising for Higher Education,” *Washington Post*, August 18, 2017, <https://www.washingtonpost.com/news/grade-point/wp/2017/08/18/the-blessing-and-curse-of-fund-raising-for-higher-education/>.
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8. Kate Darling, “Jeffrey Epstein’s Influence in the Science World Is a Symptom of Larger Problems,” *Guardian* (US edition), August 27, 2019, <https://www.theguardian.com/commentisfree/2019/aug/27/jeffrey-epstein-science-mit-brockman>.

Against Reduction

Designing a Human Future with Machines

By: Noelani Arista, Sasha Costanza-Chock, Vafa Ghazavi, Suzanne Kite, Cathryn Klusmeier, Jason Edward Lewis, Archer Pechawis, Jaclyn Sawyer, Gary Zhexi Zhang, Snoweria Zhang

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