Book Review

Meredith Broussard
Artificial Unintelligence: How Computers Misunderstand the World
Cambridge, MA: MIT Press, 2018

Reviewed by Howard A. Doughty

Whether implicitly or explicitly, people who think, speak, and write about modern technology and its role in governance, public administration, and the multi-faceted innovations that are increasingly being deployed in all aspects of modern and early postmodern society base their work on some fundamental set of assumptions about the relations among human autonomy and agency, social relations, and the various mechanical and electronic devices that we use in every part of our political economy whether it is agriculture, commerce, finance, manufacturing, public sector service provision or regulation, or the multiple, intersecting communications exchanges that monitor everything from the machine maintenance to medical diagnosis as our complex interactions make mostly functional order out of what could easily be uncontrollable commotion and confusion.

> If we understand the limits of what we *can* do with technology, we can make better choices about what we *should* do with it to make the world better for everyone. – Meredith Broussard

Much of our concern relates to technical questions of efficiency and efficacy. This has been made copiously clear in the current adjustments that we are making to accommodate the demands of the COVID-19 pandemic. Great changes, for example, are taking place in our methods of meeting with others. As something of an academic, I am currently awaiting word about when (or if) the conferences at which I was scheduled to present three papers—one on Hannah Arendt's controversial theories about the distinctions among "labour," "work," and "action"; another on the role of political advocacy in higher education; and a third on the proper relationship between school curricula and the needs of the emerging technologically mediated workplace—will be rescheduled either as "normal" face-to-face events or as some version of a disembodied "zoom" encounter. I am also trying to manage the transformation of my classroom teaching duties from the "emergency measures" taken at the end of last winter's aborted semester and I am being told to get used to faculty meetings held remotely.

None of these are merely "technical" matters of adjustments to a new and improved way of communicating the same material. The change from "in person" events to computer-mediated encounters changes profoundly the social dynamics and the power relations involved. It is one thing, for instance, to have a screen-only encounter with our colleagues and administrative authorities in which virtual anonymity is easy, debate can be muted, and contrasting passions can be eviscerated and quite another to be breathing the same air as people you are trying to entice,

persuade, ignore, or berate not just in "real time," but in "real space" as well. (Not for nothing do students regularly sign up for online courses where they can "participate" in the comfort of their own homes, and then drop out in appalling numbers because of the artificiality of the dehumanized environment. A quick and easy passing grade becomes an unacceptably alienating experience (though its merely economic costs and superficial efficiency seemed initially attractive both to the institution "delivering curriculum" and the "customer receiving the service." Or, getting books from Amazon.com may save some time, but it can't replace the luxury of browsing through the stacks of an "old-fashioned" bookstore, nor can reading *The Guardian* or the *New York Times* or your local hometown newspaper online match the comfort and enjoyment doing so over coffee at the breakfast table.

> Illustrated with examples from Broussard's own work and experience, this is an intensely personal journey that gives a real sense of travelling with a friend.
> – *Times Literary Supplement*

Meredith Broussard's excellent book won the Association of American Publishers Award for the best book of 2018 in computing and information sciences as well as the Society for the History of Technology's top honour for exceptional scholarship that reaches beyond the academy toward a broad audience. In *Artificial Unintelligence,* she translates my mainly aesthetic and occasionally political preference for encountering issues of importance "in the flesh" over the desiccated and eviscerated experience into the language of the multi-layered forms of "information technology." The problem she addresses isn't so much that IT commits errors in transmission and translation (although that's true too), but that authentic *communication* is replaced by (literally) thoughtless exercises in data exchange. In contextless communication, nuance is abandoned and both creativity and conflict are suppressed by rubrics that eliminate what is not already predetermined as existing within the boundaries of the permissible. Rather than opening up vast new ranges of communication, it shrivels existing ideas into bits and bytes that can be forced into boxes that accommodate the technological needs of the machine, not the full expression of the idea. So, to add to Marshall McLuhan's most famous aphorism: "the medium is [not only] the message," it is the constricting, distorting box outside of which we are all so relentlessly asked to think.

Unlike class clowns and subversives, Broussard is perfect for the task of unmasking the artificiality of the intelligence on display in contemporary offices, exchanges, and networks. She is not a romantic idealist, technophobe, superannuated hippie, or lazy, incompetent dinosaur trying to make it to retirement before the wired (or wireless) workplace catches up with her and exposes her redundancy. On the contrary, she has a résumé that includes time as a successful software developer at AT&T Bell Labs and the MIT Media Lab. She is a well-published writer in the field. She was also a Fellow at the Tow Graduate School of Journalism at Columbia University and now teaches at New York University. As Cathy O'Neil, former Wall Street analyst and later "Occupy Wall Street" activist, and author of the influential *Weapons of Math Destruction* (2016) put it: Broussard "has a superpower and it's not (only) that she can program—it's that she can explain what that means and what it doesn't."

Broussard's main argument is not that there is something wrong with computers, but rather with human expectations. In the late 1850s, I seem to recall, Ernest Renan, the revered French

historian, Semitic philologist, nationalist theorist, racist, modernist, and literary influence on artists from James Joyce to Marcel Proust, made the now absurd prediction that, by the turn of the (twentieth) century, all the great questions of science would be answered with only small details to be filled in. That, of course, was at a time before we knew much about the expanding universe, the double-helix structure of DNA, the theory of relativity, quantum mechanics, or the importance of hand-washing for surgeons before operating on patients. Such misplaced confidence is apparently with us again and promulgated by too many enthusiasts of "artificial intelligence" and other technological initiatives. She calls it "technochauvenism." Swept up in the midst of the industrialization and the enthusiasm of what Butterfield (1931) called the "Whig interpretation of history," Renan can perhaps be forgiven his enthusiasm for the values of the European Enlightenment in the age of Goethe's *Faust*; having experienced the legacy of such "progress" in weapons of mass destruction and the potentially ecocide consequences of toxic waste mismanagement, industrial pollution, and climate change, Broussard is not prepared to indulge in apocalyptic thinking or to recommend a systemic withdrawal from high technology. She does, however, insist that our species think with greater prudence and act with greater discretion.

> The gap between what we imagine and what computers can actually do is really vast. Technology is terrific, and I'm very enthusiastic about forward progress, but it's time to be more critical and realistic about what computers can and can't do.   – Meredith Broussard

By technochauvenism she means the belief that computers are inherently able to do things more rationally, more expeditiously, and therefore more effectively and more justly than human beings. This optimism is no doubt warranted with respect to storing and retrieving huge amounts of data (e.g., keeping track of massive inventories of voter registration lists, container ship cargos, Walmart and Amazon inventories, online newspaper archives, troop deployments, and nuclear weapon stashes). It is also justified with regard to performing the complex mathematical tasks required to send space craft to distant planets and make sure that hundred-story office towers do not unexpectedly fall down (provided, of course, that the machine's human adjuncts get the formulae and input the correct information).

Technochauvenism, however, neglects the fact that computers are not very good at performing tasks that require aesthetic, moral, or political judgement. They have no business assessing works of art, deciding what restrictions to place on physician-assisted suicide, or devising future programs to ensure that every citizen of a thriving democracy has an adequate income to ensure essential food, clothing, shelter, education, and health care. And, of course, not all of us are so deprived of cultural memory that we can't see the benefits of books, which are "inexpensive, reusable, durable, and have relatively few maintenance costs [over] iPads and computer networks that require maintenance contracts, frequent replacements, and teacher support and training?" What's more, books are more reassuring to hold, cannot be mistakenly deleted by a careless keystroke, and don't unduly strain your eyes.

By taking specific examples of genuine computer efficiencies and contrasting them with cases in which these hyper-calculators are just not equipped for the job, she adds an important dimension to the six excellent questions posed some 15 years ago by technosceptic Neil Postman. In one of his wittiest books, *Amusing Ourselves to Death*, Postman says that the first question to

be asked of anyone proposing a new invention (or innovation) was this: "What is the problem to which this technology is the solution?" If an answer is not immediately forthcoming and if that answer does not clearly explain the advantages of the innovation over existing methods, people are well-advised to reject it on the ground that human arrogance can easily combine with human ignorance in such a way that we fail to consider the possible unintended consequences of what seemed to have been a good idea at the time.

In the light of the speed and insistence with which new methods are foisted upon and incorporated within our society, there is little room for caution and what the framers of the Canadian "constitution" called the need for "sober second thought" in legislative deliberations. One result is the preference of both business and government to favour expensive, esoteric devices to deal with urgent medical issues when many more lives could be enhanced or saved by investments in preventative medicine, not least by reducing or eliminating the greatest threat to health of all—poverty (cf. McGibbon, 2012; Raphael, 2016).

Since publishing *Artificial Unintelligence*, Broussard has extended the the range of her critique and her popular audience in lively podcasts and engaging articles in the popular press. She has, for example, maintained a studied scepticism regarding driverless vehicles (Broussard, 2018a), inveighed against the urge to impose technologically mediated education, a trend now exacerbated by the COVID-19 pandemic (Broussard & Glasser, 2019), takes particular glee in explaining why Amazon.com's disembodied "Alexa" can't speak to Scottish people (Broussard, 2018b).

> It's technochauvinism that a small group of people in California, like the people who run Twitter, believe it's possible to have a computer administer society, and they believe that it is better to use algorithms than to use people.
> – Meredith Broussard

Broussard balances her critique with a report in her own technological triumph. She is interested in American politics and set herself the task of revealing certain aspects of the incumbent president's electoral finances. Like all aspects of his financial affairs, questions of cash flow were notoriously hard to uncover. Nonetheless, with her superb computer skills, she managed to write a program that did all the dirty work of exploring mountains of paper (or oceans of pixels) and was able to reveal via twitter that, at one point in the current American president's first (and perhaps only) national campaign, his committee had spent $1,481,842 on bright red MAGA hats from China. I venture to say that no self-respecting computer would ever have thought that such an expenditure was reasonable; of course, computers do not possess self-respect, the matter is moot.

Broussard's overall conclusion is that computers are tremendous assets if we maintain the antique Greek commitment to moderation. Our machines can help us to plant and harvest crops, to lift heavy objects and dig deep into the earth, to see tiny objects and bring distant stars within view, to take flight and to cross oceans underwater. They can even spell-check articles for *The Innovation Journal.* They can speed up parts of our work, but they cannot replace us … unless we program them to do so, in which case our submission to technological tyranny will be self-inflicted—a final example of displaced *hubris* and pre-programmed *nemesis.*

Our last best hope, she argues, is that we learn that, for some purposes, a human with a machine can outperform both machines and humans alone. In the alternative, we will find that computers on their own are updated abacuses―nothing less for certain, but certainly nothing more.

Or, as America's favourite PTSD survivor, Kurt Vonnegut, wrote of the child's string-weaving game of "cat's cradle" (1963, p. 166) which like "artificial intelligence" is merely a misplaced metaphor:

"No wonder kids grow up crazy. A cat's cradle is nothing but a bunch of X's between somebody's hands, and little kids look and look and look at all those X's …"

"And?"

"No damn cat, and no damn cradle."

About the Author:

Howard A. Doughty teaches Sociology in the Faculty of Arts at Seneca College in Toronto, Canada. He can be reached at howard_doughty@post.com. His most recent publications include: "The political economy of academic leadership," in V. Wang, ed., *Educational Leadership: Perspectives*, *Management and Challenges.* New York, NY: Nova Science Publications (forthcoming); "Administrative ethics in the corporate college: Paradoxes, dilemmas, and contradictions." in V. Wang. ed. *Handbook of Research on Ethical Challenges in Higher Education Leadership and Administration.* Hershey, PA: IGI Global, 2020, pp. 131-155. A rational society? Student protest, politics and the relevance of Jürgen Habermas, *International Journal of Adult Education and Technology* 10(3), 2020; Cybernetics, cyberethics and technologically mediated learning, in A. Blackburn, I. Chen & R. Pfeffer, eds., *Emerging trends in cyber ethics and distance education*, Hershey, PA: IGI Global, 2019, pp. 215-233; From the professoriat to the precariat: Adjunctivitis, collegiality and academic freedom, *International Journal of Adult Vocational Education* 9(3), 2019, pp. 1-22. He can be reached at howard_doughty@post.com.

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