Because it can explain how the next technological revolution impacts our lives and the communities we care about

November 30, 2023

By Rayvon Fouché (Northwestern University)

For those reading nearly any media outlet during 2023, it is hard to miss the fact that Artificial Intelligence (AI)–in all its varied manifestations–is a regularized component of public discussion and debate. The celebrated and feared emergence of ChatGPT in late 2022, the Writers Guild of America strike and the concerns that writing would cease to be a human endeavor, and the recent firing and subsequent rehiring of OpenAI CEO Sam Altman clearly illustrate that AI is having a moment. So much so that prediction and forecasting site Metaculus is tracking to see if *Time's* person of the year for 2023 will be AI. Honestly, it is hard to argue against this idea. But before we get too far down a path of contending and arguing that an AI revolution will fundamentally transform the world in which we live, perhaps we should consider what social science can tell us and has told us about the longitudinal impacts of technological change on society. The interdisciplinary world of Science & Technology Studies can provide a window into how new and emerging technologies impact how we live on the planet.

Science & Technology Studies as a field of inquiry that emerged in the middle of the twentieth century, bringing together those interested and invested in better understanding the ways science and technology impacted society. Situated within broader discussions about science "and" society, and science "for" society, early work–exemplified by Thomas Kuhn's The Structure of Scientific Revolutions–aimed to reveal the deep social roots of scientific discovery and technological innovation.

"As the world becomes more diverse, we must continue of embrace what the social in social science can do for the things we bring into our collective world."

This mid-century social science propelled a new way to evaluate the impact of a new technology or technoscientific systems on society, as well as the messy contours of this reality. For example, shortly after World War II some concluded that the use of nuclear weapons was necessary and that they would greatly curtail global armed conflict. However, from the second half of the twentieth century to the current warfare in Ukraine and Gaza, armed conflict continues to be a constitutive component of the modern world. Similarly, nuclear power was supposed to end our energy needs. But regardless of where you live in the world, fossil fuels used for energy production are an important part of the world's energy ecosystem. All of this is to say, that many predictive claims about technology and its importance to the future go unfounded. This is not to be overly critical about technological enthusiasm, but in the recent past narratives about nanotechnology, autonomous vehicles, rapid adoption of electric vehicles, or Artificial Intelligence illustrate that technological exuberance may not connect with the realities of technological implementation and use.

Eventually, Science & Technology Studies spawned a scholarly ecology producing engaged studies that would bring us to the place where efforts now center on how to create science "with" society and co-produce new socially-rooted and community-relevant scientific questions and answers. These efforts motivate scholars to bring together the social with the cultural to probe the ways that science and technology inequitably influence and shape the lives of those historically marginalized by race, ethnicity, gender, disability, sexuality, or geography.

"I believe that social science will be critical in reminding us that innovation is impossible without social consensus."

For me and the scholarly work I do, race is an indelible part of our social, cultural, *and* scientific and technological worlds. Our societies have manipulated the concept for centuries to shape myriad social and political relations. The term "innovation" may not have as long and as complicated a history, but it has become a driving force of the contemporary world. As our societies concurrently embrace all things technoscientific to manufacture the future, innovation has become a familiar theme of this global narrative. The narrative also posits that a culture of disruptive innovation will enable humanity to "build" this positivist future.

Returning to our current AI moment, a moment where corporations, governments, news media outlets, and a host of allied institutions tout Large Language Models and Generative AI as a solution to a host of our societies' problems, it is important to ask the under asked question: for what and for whom? As the world becomes more diverse, we must continue of embrace what the social in social science can do for the things we bring into our collective world. Instead of obsessing about how AI can reduce labor cost by replacing humans, can we shift the discussion to consider how AI can increase human creativity? It is important to remember that AI is just another moment of human creativity expressed through technology and not the next necessary step in human evolution. Context is so important, and I believe that social science will be critical in reminding us that innovation is impossible without social consensus. Arguably, society has been reticent to endow technology with the power to control human existence. But AI will make our societies ask the same question again that it has asked for centuries about new technology, and social science can provide valuable history, context, and interpretive perspectives that will inform our societies moving forward.

Dr. Rayvon Fouché *holds a joint appointment as Professor of Communication Studies and Professor of Journalism at Northwestern University. In 2023, Fouché received Henry and Bryna David Award from the National Academies of Sciences, Engineering, and Medicine's Division of Behavioral and Social Sciences and Education (DBASSE). He was the inaugural Arthur Mollela Distinguished Fellow at the Smithsonian Institution's Lemelson Center for the Study of Invention and Innovation. He served as Division Director of Social and Economic Sciences within the Directorate of Social and Behavioral Sciences at the National Science Foundation from 2022-2023. The Andrew W. Mellon Foundation, Illinois Informatics Institute, Illinois Program for the Research in Humanities, University of Illinois' Center for Advanced Study, National Endowment for the Humanities, the National Science Foundation, and the Smithsonian Institution's Lemelson Center for the Study of Invention and Innovation have supported his work on cultural representation, racial identification, and technological design.*