

Hypothesis: Is “Terminator Syndrome” a Barrier to Democratizing Artificial Intelligence and Public Engagement in Digital Health?

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To the Editor:

Artificial Intelligence (AI) is a hot topic in digital health, as automated systems are being adopted in doctors’ offices and hospitals, impacting everything from medical research to insurance practices (Garvey, 2018a). AI and robotics are also anticipated to shape home health care for aging populations, whereas predictive “machine learning” algorithms are expected to improve critical care (Meyer et al., 2018).

As AI transforms health care, there will be winners and losers. Some clinicians are “optimistic that patients, whose lives and medical histories shape the algorithms, will emerge as the biggest winners” (Obermeyer and Emanuel, 2016). But multiple actors are shaping the algorithms, including the AI industry with its considerable financial, technical, and political resources. Moreover, at least in the United States, extant regulatory standards have been noted as insufficient guidelines for the responsible development of AI in health care (Parikh et al., 2019).

This makes the critical engagement of diverse publics, news media, and science journalists with emerging technologies such as AI all the more important. Such engagement is an integral part of the system of checks and balances democratic societies utilize in decision-making and, therefore, crucial to the democratic translation of medical research to health care practices.

If engagement with AI technology by actors beyond scientists and the laboratory space is important, *how* public engagement exercises in AI science are designed is just as important as their implementation. I propose here that the AI community’s orientation toward public and news media engagement can be an important barrier and/or facilitator in the effective design of public engagement in AI science. An open reflexive relationship between experts and lay publics will prove vital to successfully democratizing digital health and facilitating the responsible and sustainable societal embedding of AI technologies more generally.

However, many in the AI technology community hold an antagonistic stance toward the media (Shead, 2018), key mediators of this relationship. This is not unique to AI though; the contentious relationship between science and the media has been studied for decades. One classic finding is scientists’ tendency to “interpret critical reports about science or technology as evidence of an anti-science or

antiestablishment bias” (Nelkin, 1987). In this context, it is perhaps not surprising that the belief that negative media coverage of AI—in particular, the news media’s alleged use of imagery from the movie *Terminator*—is to blame for public concerns about AI has for years been widespread in the AI community.

But when AI scientists explain away public concerns about AI as the irrational response of misinformed people (e.g., fear of the *Terminator* stoked by a sensationalist media), they reproduce the “deficit model” of the public’s understanding of science (Stilgoe et al., 2014) that has been contested and rejected by scholars in the history and social studies of science.

Because this unchecked belief poses a potential barrier to broader public engagement and the democratization of AI (Garvey, 2018b), it can be considered a political risk (Garvey, 2018c) to both the responsible governance of this rapidly advancing technology and the democratization of digital health. I name this climate of risk perception the “Terminator Syndrome”—not because of its origins in the movie of the same name *per se*, but because such beliefs can terminate broad public engagement on AI before they even begin.

I suggest that future research evaluate the hypothesis of whether or not the *Terminator Syndrome* poses barriers to broader public and journalistic engagement in and with AI technology. Going forward, public engagement in AI innovations should be designed with evidence from the field in mind, rather than unchecked beliefs and assumptions from the AI community. For this, engagement with critical social science and humanities is essential.

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Abbreviation Used

AI = artificial intelligence