Now to imagine a different world? Race critical code studies

Racing Science and Technology Studies

Building on the insights both of critical race theory and STS, Ruha Benjamin synthesises a broad-ranging set of examples to elaborate *race critical code studies*. This is, she suggests, an intellectual commitment to exploring the processes through which racial difference becomes codified within technologies, how whiteness becomes the "default setting", and even how technologies can be claimed to be race-neutral. The conceptual lens is a welcome solidification of an important seam of recent work (other writers here include Browne (2015) and Noble (2018)) that evidences a vital reorientation to the inequities that technologies (re)produce, and highlights a clear absence of accountability.

Benjamin introduces readers to STS concepts like 'technological determinism' (the troublesome notion that technologies, external to society, produce effects within that society) and ideas like the "black box" (the metaphor used to describe how the inner workings of technologies are hidden from view and scrutiny). One crucial idea is that all technologies are necessarily contingent and interested, built by the sufficiently resourced in response to various imaginaries, needs, and anticipations. For Benjamin, a technologist can have the best intentions, yet the 'coded inequity' will still establish itself.

Benjamin thus claims that it is not only possible, but probable, that artificial intelligence (AI) software can produce biased results. By way of example, Benjamin introduces us to Beauty AI, a "beauty contest" judged by artificial intelligence. Benjamin despairs as she maps out how the designers' personal preferences must inevitably work their way into the AI system through – if nothing else – the collation of a reference library of beautiful faces against which contestants will be compared. There is, of course, no one kind of beautiful, so the AI judge takes on the designers' eye. Sure enough, the finalists were nearly all white. Moments like this see Benjamin weaving STS together with critical race theory at a moment where an STS sharply attuned to notions of difference and marginality has perhaps never been more valuable.

Social and computational code

In elaborating *race critical code studies*, Benjamin creatively stretches and plays with the notion of "code". Sure, digital technologies rely on code to be built, or to run. But to the extent that social life is itself reliant on codes (like meanings encoded in our names and skin colours) *race critical code studies* is much more expansive in where it seeks to locate codes. Any framework of meaning stands to be a kind of code to be interrogated. This intersection between various kinds of code is a rich one that charges the entire book, as the author offers historical insights that pre-date, but also presage newer issues.

Benjamin manages to bind contemporary technologies and their inevitable, embedded inequalities within the historical striations of American racism. In the chapter, *Technological Benevolence*, she explores an American software company that promises to determine the ethnicities of people based on their names and addresses. Other companies, who may be interested in these demographic details of their customer base (for targeted marketing, for example) often do not have access to such detail because of legal limitations on ethnicity data collection that emerge partly from civil rights legislation. The software company offers a work-around, using bits of data about a customer base – like zip codes – to estimate (with 96% accuracy, apparently!) each individual's ethnicity.

After decades of redlining to deny retail, financial and other services to non-white people, America's racialised spatialities are so embedded that a postal address solidifies as a useful datum in such algorithmic processes. As Benjamin puts it:

"racialized zip codes are the output of Jim Crow policies and the input of New Jim Code practices. Without them, entities would be unable to navigate the antidiscriminatory ethos of civil rights legislation,

and companies […] would have a much harder time predicting Blackness as part of what they sell to firms and organizations" (2019: 147).

Moreover, the Indian government's Aadhaar scheme aims to build a nation-wide information infrastructure but risks, Benjamin notes, excluding those who do not or cannot enrol from accessing welfare provision. "In this way", she argues, alluding to the caste system which is itself a means through which individuals are socially coded – "the New Jim Code gives rise to digital untouchables" (2019: 133).

This lens, emphasizing the entanglement of codes both social and computational – is primed for orientation towards the UK. For example, since the 2014 Immigration Act, health care providers in English NHS hospitals must ensure that all patients are legitimately entitled to state-funded healthcare. This has led, as I have been exploring with colleagues (see Fitzgerald *et al.*, under review), to healthcare providers having to request identification from people who do not "look" eligible. Doctors are thus tasked with decoding the names, faces, voices, and bodies of patients to determine whether they must request documentation.

The obvious likelihood here, of course, that this matrix of data and codes is most likely to catch the black and brown bodies of (perceived) immigrants. As Benjamin cautions, for all that platforms and technologists vaunt the concept of data sharing as a means of making access to goods and services more efficient, it often risks "streamlining marginalization" (2019: 13). The book emphasises this important sense of inequity: not everybody feels the extent of technologies equally, or in the same way.

The differing extents of exposure

In *Race after Technology*, we are prompted to consider why a cautious approach to technological adoption might again be merited by the more marginalised. Yet, this digital frontier is unlike the "stem cell frontier" of Benjamin's first book (2013), in which various scientific institutions and state actors actively sought the engagement of minority communities, looking to convince them to opt in. The different areas of so many of our lives are now already entangled in an expansive network of digital technologies and data infrastructures. The privilege of disengaging, or of opting out, is – for most of us – inconceivable.

Benjamin tells a story of Silicon Valley technologists' children, raised in an environment where the surveillant eye of the digital platforms and technologies designed and owned by their parents are banned from their private school classrooms. For the rest of us, however, "the notion of a *personal* right to refuse *privately* is not a tenable solution" (2019: 16). Of course, you can delete your Facebook account, or choose not to use a mobile telephone for instance. But increasingly all of us engage with technologies to which we have no option but to be exposed. What is emphasised in Benjamin's monograph is that not all of us will feel that exposure to the same extent.

Take, for example, facial recognition technology, which sweeps up images of faces from crowds, measures facial features, and compares the numeric data representations of each face against an existing database of faces (notable trial uses in the UK are London's Metropolitan Police Force experimenting with the technology at Notting Hill Carnival, the annual African-Caribbean Festival). The technology is not all that successful much of the time, as a recent UK report laid out (Big Brother Watch, 2018). The machines, after all, are still technically "learning" and might "improve" their success rates. But this is not Benjamin's gripe. For her, what is at issue is the unfolding of history in the present, the collusion of the social with the computational in the very formation of these technologies that produce coded inequity. Ultimately, although facial recognition cameras may hoover up all our faces as we walk by, if a criminal reference database is filled predominantly with minority ethnic faces (likely to be the case, given the US criminal justice system's longstanding predilection for ethnic minority incarceration), your face is probably less likely to be recognised if you're white.

Additionally, if you're black, your face potentially stands a higher chance of being falsely recognised because of the limitations of facial recognition software that are understood to work more poorly with black faces. This is the likely result of a photographic industry so obsessed with representing whiteness that it neglected to develop adequate techniques for representing anything else. This last point is fantastically rendered in chapter 3, *Coded Exposure*, where Benjamin situates this complexity within the broader history of visual technologies, including the Kodak colour cards first used in the 1950s to send to photo labs to ensure the colouration of prints was correctly calibrated. The fact that the women featured on these cards were always white would set the standard for photography. Only later, when the profitability of overseas markets became apparent, would the colour cards feature women of colour.

It is through this impressive tying together of history and the present that the potentially expansive scope of *race critical code studies* comes into view. Benjamin situates technologies like facial recognition AI within the broader sociomaterial structures that rendered it technically possible and that now sustain it. The software is fed with data that mirrors the inequities of the social world, reproducing those very inequities. But whilst we could call a person a racist, we could never describe a computer as such – could we?

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But Benjamin does not make the same kind of category error that many fall into by suggesting that we should instead simply produce neutral technologies. Technologies have politics, and always will. But we can have a say in what those politics will be. It is in this way that the entire monograph seems buoyed by the possibility that things don't have to be like this. Technologies' existence, always and only a manifestation of the sociomaterial processes that dreamt, funded and built them into the world, is never inevitable.

The answer, from Benjamin's perspective, is not simply to steer more people of colour into the science, technology and engineering professions. Nor can we rely on the laudable resistances of technologists already working within the industry, who identify and then agitate against what they deem to be unsavoury coded inequities, as responses coming out of the technology industry alone will inevitably be piecemeal. They must, Benjamin concludes, be coupled with more.

A truly inter- and extra-disciplinary engagement is required, where technologists work alongside the arts and humanities and, crucially, social justice organisations. So too would we need a reorientation from efficiency to equity, from market imperatives to social good. It is a grand task that Benjamin lays out before us, but a vital agenda to set. It also requires us to imagine: if technologies and the world they have a hand in producing could have been another way, then what way could it have been? We cannot simply critique, but must conjoin this, as Benjamin argues, with "creative alternatives" (2019: 197).

References

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