

## Emerging Technologies, Existing Power Structures and the Future

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**Abstract:** *Any exploitative socio-economic system has to necessarily rely on myths and propaganda for its existence, and it sustains itself by wielding the power to twist and mutate any new phenomenon, change, or revolt to suit its purpose. Racism does this by deploying tactics of racialization, or as Ta-Nahisi Coates put it, race is the child of racism, not the father, and this distinction is purposefully blurred. The caste system in the Indian subcontinent relies on reification methods, by glorifying some groups and denigrating the rest, to the extent of defining different biologies. Capitalism relies on myths of meritocracy and a misplaced sense of individualism, among such tropes. This article seeks to explore ways through which the emerging technologies such as artificial intelligence, big data, Blockchain and others interact with these existing structures. It will seek to understand the following issues: how much of the interaction results in disruption or dismantling of old ways, how much of it results in the fortification of exploitative structures, and whether some of them are all too new to be judged as of now.*



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This paper is part of the series for PJSE's special issue 'Has capitalism destroyed Caste and Race; does capitalism equalize or perpetuate age-old inequalities?'

Technology is neither good nor bad; **nor is it neutral.**

If we were asked to recall some dystopian movies which have the premise of intelligent robots/androids going rogue and unleashing terror on humanity, we would probably name a few right away, from Stanley Kubrick's "2001: A Space Odyssey" to the Wachowski Sisters' "Matrix" trilogy. We would also consider the dystopian premises where criminals are prosecuted before they commit a crime ("Minority Report") or where citizens are judged based on a social rating (Black Mirror's 'Nosedive'), a real variation of which is being discussed in China.<sup>1</sup> Such fears and fantasies have become mainstream now, and even

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<sup>1</sup> Schmitz, Rob (2017, January 03) *What's Your 'Public Credit Score'? The Shanghai Government Can Tell You*. Retrieved from <https://www.npr.org/sections/parallels/2017/01/03/507983933/whats-your-public-credit-score-the-shanghai-government-can-tell-you>

Elon Musk, the man who slingshot a car into outer space, remains seriously concerned about robots taking over our world.<sup>2</sup>

Let us move to the other end of the spectrum of this strain of imagination, where technology is seen as a great enabler, even a great leveler, where we all live in a “post-scarcity” society. Take Peter Frase’s article in Jacobin magazine,<sup>3</sup> or consider the famous opening lines from “A Declaration of the Independence of Cyberspace” penned by John Barlow in 1996 where he envisions the digital space to be an anarchist utopia, “Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather.” If that wasn’t enough of a flourish for you, it goes on to declare, “We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth.”<sup>4</sup>

Although, on a cursory look, it may seem that the two sets of ideas are in opposition to each other, they end up performing the same function: to keep the debate focused elsewhere rather than where it should be. It serves the function of seeing technology as being an independent and isolated force devoid of socio-economic incentives and pressures of the day.

With the advent of digital technology and despite the existence of the “digital divide,”<sup>5</sup> our lives are ever-increasingly being digitalized. Our mundane activities, habits, tendencies, behavioral traits, vulnerabilities, preferences, ticks, triggers and nearly everything about us that could be digitalized ends up becoming a data point. It is now possible to process vast swathes of data to pick out patterns and derive insights and leverage them for specific purposes. The insights generated from our own collective data is used to market products, target us with customized adverts, and even sell ideologies or make us vote for certain political parties. The Marathi author V. P. Kale had remarked that the more things get personal, the more they get universal. Although it was meant to be poetic, in the world of data it gets a sinister angle. Because, with data generation getting more varied, diverse, and bountiful, the insights derived from it could become very

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<sup>2</sup> Clifford, Catherine (2017, December 18). *9 of the most jaw-dropping things Elon Musk said about robots and AI in 2017*. Retrieved from <https://www.cnn.com/2017/12/18/9-mind-blowing-things-elon-musk-said-about-robots-and-ai-in-2017.html>

<sup>3</sup> Frase, Peter. (2015, March 18). *Ours to Master*. Retrieved from <https://jacobinmag.com/2015/03/automation-frase-robots>

<sup>4</sup> Barlow, John P. (1996, February 08). *A Declaration of the Independence of Cyberspace*. Retrieved from <https://www.eff.org/cyberspace-independence>

<sup>5</sup> *Digital Divide* (2019) Retrieved from <https://cs.stanford.edu/people/eroberts/cs181/projects/digital-divide/start.html>

personal and powerful. That is one of the reasons why data is being termed as the new oil and every traditional institution of power is becoming data hungry. Soon, most devices at our homes, workplaces, and public places would start generating data and simple surveillance will be replaced with minute analysis of our lives. This was termed as ‘Surveillance Capitalism’ by Shoshana Zuboff, which means mining of sensitive or personal information to generate profits, even if it means manipulating human behaviour.<sup>6</sup> It is the age of not just predicting needs, but artificially manufacturing these needs.

Today, the share of data flow in world GDP exceeds that of physical goods, and it is an irreversible trend.<sup>7</sup> The toothpaste that you are tempted to buy or the political party that you are nudged to vote will be decided by owners of this data, and this has already begun. In the near future, the elite classes and castes<sup>8</sup> do not need to hijack polling booths or hack any voting machines when the power of data could make us sitting ducks for easy manipulation. Even the governments of the developing nations control a huge repository of citizen data because they conduct census and deliver welfare programs. What if these governments decided to act like private companies, treat votes in the same tone as corporate profits, target voters as if they were consumers, and decide to use this data in their electoral campaigns by subtly manipulating their voters in personal and individualized ways? As Jamie Bartlett puts it, “the more politics becomes a question of smart analysis and nudges rather than argument, the further power will shift away from those with good ideas and towards those with good data and lots of money.”<sup>9</sup> And the European GDPR (General Data Protection Rules) or the upcoming Indian Personal Data Protection Bill won’t be capable or even relevant enough to prevent this.

However, it would be a folly to think that this will change everything. Rather, digital technologies are shaped by existing power relations and socio-economic structures. For example, there are algorithms that are racist. The works of Oscar Gandy,<sup>10</sup> Cathy O’Neil, and the investigative

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<sup>6</sup> Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. United States: Public Affairs Publication, 2019

<sup>7</sup> Tarnoff, Ben. (2018, February 01). *Data is the new lifeblood of capitalism – don't hand corporate America control*. Retrieved from <https://www.theguardian.com/technology/2018/jan/31/data-laws-corporate-america-capitalism>

<sup>8</sup> [Somwanshi, Gaurav \(2016, September 02\). Dalit: Identity or Commodity for Savarnas?. Retrieved from http://roundtableindia.co.in/index.php?option=com\\_content&view=article&id=8748:dalit-identity-or-commodity-for-savarnas&catid=119:feature&Itemid=132](http://roundtableindia.co.in/index.php?option=com_content&view=article&id=8748:dalit-identity-or-commodity-for-savarnas&catid=119:feature&Itemid=132)

<sup>9</sup> Bartlett, Jamie. *The People Vs Tech: How the internet is killing democracy (and how we save it)*. UK: Random House Publication, 2018

<sup>10</sup> Annenberg School for Communication, University of Pennsylvania. Retrieved from <https://www.asc.upenn.edu/people/faculty/oscar-gandy-phd>

journalism of ‘ProPublica,’<sup>11</sup> among others, have helped bring this issue to light. Owing to their mathematical nature, which is supposedly blind to prejudices of the real world, algorithms were entrusted with the task of deciding who gets a loan, who should be considered for a job application, who gets insurance and who doesn’t, and who is more likely to commit crime again, and so on. Although these algorithms are never explicitly taught to look at race and are expected to learn and grow more complex on their own by interacting with each other and consuming more data, they tend to follow the same prejudicial patterns because they depend on legacy systems and historical data. This happens because the code is often hardwired to ensure immediate profit and is done by humans who are beset with all sorts of worldly prejudices. These big data algorithms have been aptly named “Weapons of Math Destruction”<sup>12</sup> in a book with the same title by Cathy O’Neil where she documents many such instances, and you would find more such in Meredith Broussard’s “Artificial Un-Intelligence.”<sup>13</sup>

Related buzzwords are artificial intelligence, machine learning, and deep learning. The myth surrounding these are the most pervasive: on the one hand, it is claimed that technology would eliminate most jobs and that the loss of jobs would be an unavoidable collateral damage of meritocracy. On the other, there is an insistence that artificial intelligence should be kept in check to prevent us from being enslaved by robots. These distractive myths serve the purpose of hiding the role of the powerful in increasing the socioeconomic gap and their role in eroding the bargaining power of the poor, especially in terms of not implementing mandatory regulations and accelerating the erosion of workers’ unions. Somehow, it succeeds in managing to bypass complex issues. Consider that the technological changes do not affect nations and societies equally and socio-economic inequality isn’t necessarily a direct outcome of such changes. The decisive factors which control in what ways and how much technology affects us are socio-political in nature, not technological.

The tech giants at Silicon Valley are profoundly in the know of the aforementioned changes. Lenin had famously remarked that, “advances in the spheres of technology and science in capitalist society are but advances in the art of extortion of sweat,” and this could be said to be worldview of the tech giants.

Then there are some technologies that indeed have the potential to be truly revolutionary. For instance, blockchain technology – it is the underlying skeleton of the most famous cryptocurrency to date, bitcoin. Bitcoin rose in the aftermath of the 2008 financial crisis, which demonstrated that big bankers and financial experts are not to be trusted with our money. To circumvent the

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<sup>11</sup> Official website of ProPublica: <https://www.propublica.org/>

<sup>12</sup> O’Neil, Cathy. Weapons of Math Destruction. United States: Crown Books, 2016

<sup>13</sup> Broussard, Meredith. Artificial Unintelligence. United States: The MIT Press, 2019

overarching power of banks and governments over fiat money and financial transactions, the route of cryptocurrency was devised with the help of blockchain technology. Although the exact technology that is used today is comparatively newer, the philosophy has been around for decades.

Its origins lie in the crypto-anarchist manifesto penned by Timothy May in the late 1980s: “A specter is haunting the modern world, the specter of crypto anarchy. Computer technology is on the verge of providing the ability for individuals and groups to communicate and interact with each other in a totally anonymous manner. Two persons may exchange messages, conduct business, and negotiate electronic contracts without ever knowing the True Name, or legal identity, of the other.” The idealists among the crypto-space even suggest that by issuing one’s own decentralized cryptocurrency, one can go beyond the idea of redistribution of wealth directly to distribution of wealth<sup>14</sup> because now one can have one’s own global currency that can be owned and issued by anyone, anywhere, although one must take these dreamy one-shot solutions with a pinch of salt. Also, revolutions do not occur in a vacuum and the rich and powerful almost always find ways to subvert potentially revolutionary technologies to their own advantage before others are even aware of it. Hence, despite its widespread popularity and ownership, 40% of bitcoins in circulation today are owned by just 1,000 or so people, most of them being young, white, and male.<sup>15</sup> The promise of cryptocurrencies such as bitcoins is yet to materialize in any definitive way.

But it would be wrong to equate bitcoins or even cryptocurrencies with blockchain technology. Briefly, if the former is understood as a website then the latter would be the internet. Not enough attention is being given to the potential uses of blockchain technology in other domains. Blockchain is a database, an immutable ledger, which allows recording transactions of anything of value, from economic and medical records to land records. Once an entry is validated and created, it cannot be deleted or altered. It holds the potential to answer the age-old conundrum: ‘Quis custodiet ipsos custodes?’ or ‘who will guard the guardian?’ This is because blockchain does not necessarily need to rely on authorities or middlemen but only on mathematics to validate transactions. As such, there are some promising pilot studies being conducted in the domain of securing land record transactions, medical records, and even voting, among others. There are also startups seeking to disrupt the current market favourites such as Uber, Airbnb, and Spotify by providing a platform where direct transactions can happen between a consumer and service provider and the value provided by middlemen or aggregators is provided by a blockchain-based platform. Blockchain based social media websites are also currently up and running. They seek to

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<sup>14</sup> Jeffries, Daniel. (2017, July 31). *Why Everyone Missed the Most Mind-Blowing Feature of Cryptocurrency*. Retrieved from <https://hackernoon.com/why-everyone-missed-the-most-mind-blowing-feature-of-cryptocurrency-860c3f25f1fb>

<sup>15</sup> Cottle, Ana. (2018, July 18). *Is Bitcoin the Perfect Storm of White Male Privilege and Technology?* Retrieved from <https://digitalculturist.com/is-bitcoin-the-perfect-storm-of-white-male-privilege-and-technology-7dad86502d94>

counter the rampant problem of fake news, and the upside-down revenue models.<sup>16</sup> These new age social media platforms seek to replace old ones such as Facebook that run on an exploitative revenue model which turns customers into products and usurps their labour, and replace them with a model that ensures that revenue is shared across the network to rightful content creators who are further incentivized to produce quality content. It is these aspects of Blockchain technology that need our attention than bitcoins.

Despite all the ways in which technology could be used by the powerful against us, it is still important to bridge the digital divide. In a country like India where there is vastly unequal access to resources based on one's caste status, it is utmost necessary to ensure safe and secure access to services offered by digital technology. There are myths around these prospects, too, that could pose roadblocks. For example, the Indian mainstream debate around Aadhaar is a case in point. Having a digital identity is necessary to avail of financial services and a unique national identifier opens up opportunities hitherto kept out of the reach of majority of citizens. Instead of keeping the debate focused around issues such as better privacy frameworks including privacy-by-design (instead of privacy-by-consent) and robust technologies such as blockchain, we are left debating whether any such identity is needed or not. This ensures that the fruits of digital technologies and access to basic services accrue to only the traditional elite castes (one could call them the passport holders), which means the gap between them and the rest is even more widened and entrenched. Such myths also help the elites to become more and more immune to any kind of meaningful scrutiny.

Keeping in mind, *Plus ça change, plus c'est la même chose* (The more things change, the more they remain the same), pondering over the effects of modern changes, Karl Marx had once compared the bourgeois society to be a sorcerer "who is no longer able to control the powers of the nether world whom he has called up by his spells."<sup>17</sup> But the sorcerers of the digital world are very much capable of wielding this control. A technophobic reaction is natural but ultimately futile. What is needed is a citizenry who is well aware of these forces and their rights.

In fact, when listing the educational grievances of the Scheduled Castes (former 'Untouchables'), Dr Babasaheb Ambedkar had written many decades ago, that, "Education in Arts and Law cannot be of much value to the Scheduled Castes either to the graduates themselves or to the people. It has not been of very high value even to Hindus. What will help the Scheduled Castes is education of an advanced type in Science and Technology. But it is obvious that education in Science and Technology is beyond the means of the Scheduled Castes and this is why so many of them send their children to take up courses in Arts and Law. Without Government assistance, the field of

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<sup>16</sup> Sandre, Andreas. (2018, April 04). 7 social media startups powered by Blockchain. Retrieved from <https://hackernoon.com/6-social-media-powered-by-blockchain-fdc41d16cb12>

<sup>17</sup> Marx, Karl, and Friedrich Engels. *The Communist Manifesto*. New York: Penguin Books, 2011. Print



advanced education in Science and Technology will never become open to the Scheduled Castes, and it is only just and proper that the Central Government should come forward to aid them in this connection.”<sup>18</sup>

There is a philosophy dominating the tech giants of the West, propounded by one of its idols, the high-tech entrepreneur and investor Peter Thiel, “If you want to create and capture lasting value, look to build a monopoly.”<sup>19</sup> These tech monopolies would end up increasing the concentration of economic power in the hands of a few, which in turn means that they will wield a tighter leash over the political sphere, mainstream media, and even cultural ethos. We need to make a collective and informed stand against it, and there are avenues opened up by technology itself that make this possible. To give an example, perhaps one of the most promising potential of blockchain technology lies in its promise to deliver the concept of ‘self-sovereign identity.’<sup>20</sup> If implemented as envisioned, it would ensure that the tech giants would not have unlimited and free access over anyone’s data. When it comes to big data, there are many ideas floated around to counter the unfair advantages accrued by tech giants, which seek to make it a level-playing field for all, like the idea of data taxation.<sup>21</sup> It is these debates and ideas that need to become mainstream before it is too late to initiate any change or meaningfully resist the lurking danger of digital imperialism. While demolishing these myths and engaging with the new reality in a meaningful way, we will have to gear up collectively, and create new frameworks, articulate new ethics, and ensure democratization of knowledge, and therefore, power.

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<sup>18</sup> Ambedkar, B. R. (1989). *Dr. Babasaheb Ambedkar, Writings and Speeches*: Vol. 19. Bombay: Education Dept., Govt. of Maharashtra.

<sup>19</sup> Mayer-Schonberger, Viktor and Ramge, Thomas. *Reinventing Capitalism in the Age of Big Data*. New York : Basic Books, 2018

<sup>20</sup> Team Metadium. (2019, January 10). *Introduction to Self-Sovereign Identity and Its 10 Guiding Principles*. Retrieved from <https://medium.com/metadium/introduction-to-self-sovereign-identity-and-its-10-guiding-principles-97c1ba603872>

<sup>21</sup> Mayer-Schonberger, Viktor and Ramge, Thomas. *Reinventing Capitalism in the Age of Big Data*. New York: Basic Books, 2018