The Future of Democracy Challenged in the Digital Age

Hazel Henderson

Founder, Ethical Markets Media Certified Benefit Corporation;
Fellow, World Academy of Art & Science

Abstract

Recent evidence is marshalled concerning the impact on democracies of the global explosion of electronic platforms and digital companies, based initially on the US government-supported and now worldwide Internet. These companies, driving Wall Street stock prices, are still largely unregulated and unchecked by conventional anti-trust regulations, especially in the USA. These companies, especially the social media giants, are examined for their growing threats to democracies in all countries. This paper explores deeper structural issues and further threats to democracies posed by the basic business and operating models of these giant global corporations. Their vast profitability rests on capturing huge caches of private personal information on their registered users by offering "free" services. This Orwellian data-trove is then sold to advertisers, thousands of third-party marketing firms, politicians and too often to officials of repressive regimes. This tsunami of personal data allows surveillance of citizens in both democracies and autocratic states. Evidence of such perversion of free speech and privacy in democracies is documented. Proposals are offered for government regulation building on the EU's GDPR. Also proposed is reinforcing personal privacy autonomy and freedom by expanding Habeas Corpus, the ancient English common law. The paper also includes an overview of the threats to democracy from other forms of market-based commercial activity including the global financialization of worldwide stock, bond and currency markets, central banks' policies, and efforts to reform these securities markets. All these threats to democracies continue, and addressing the issues requires a more future-oriented approach to planetary environmental risks, rather than anthropocentric academic studies and conventional reforms of past times.

In *The Road to Unfreedom* (2018), historian Timothy Snyder observes the USA as "sleepwalking" in the current information warfare by authoritarian states led by Russia, targeting democratic values and institutions. In our now global digital age, it is no longer necessary to wage kinetic conflicts, since democratic countries like the USA and those in Europe can be so easily undermined with cyber attacks, propaganda and weaponizing social media and open political cultures. Snyder's examples include the divisions sown in the USA in its 2016 elections and still continuing, as well as the discord in the UK since Brexit, which he calls "Russia's greatest foreign policy success"(p.104-7).

Evidence is piling up that social media and other easily weaponized institutions and norms of democratic states are being successfully disrupted in the USA, Europe and other democracies. In *Antisocial Media* (2018), author Siva Vaidhyanathan documents

how Facebook and other platforms are used as tools by authoritarian states, such as Facebook's cooption by Philippine strongman Duterte and in Myanmar where Facebook was exploited in the genocidal attacks on the Rohingya population. These and other misuses of the Internet are summarized in The Economist's special report *Fixing The Internet: The Ins and Outs*.[1] The magisterial three-volume *The Information Age Society and Culture* (1996) by sociologist Manuel Castells, reviewed in an unpublished paper by physicist Fritjof Capra, remains the most comprehensive survey of these historical changes.

In *The Entrepreneurial State* (2015), economist Mariana Mazzucato critiques these new digital platforms emanated largely from the USA and the mostly young libertarian-leaning white men who launched Microsoft, Amazon, Google, Facebook, Twitter, LinkedIn, Instagram, Snapchat and similar electronic platforms—many with governmental subsidies—using the Internet, a taxpayer funded, government innovation. China is rapidly catching up with WeChat, Alibaba, Tencent and even broader enterprises. The young Silicon Valley coders now re-writing our civic rules, naively claimed that the connectivity they provided "free" would usher in a new level of democracy and freedom, even falsely claiming that the ill-fated "Arab Spring" was a Facebook and Twitter revolution. In *How To Fix The Future* (2018), serial tech entrepreneur Andrew Keen dissents, criticizing Silicon Valley's pretensions, offering reforms to their business models and civic irresponsibility. A report in New Scientist titled *The Race to Stop Bots Taking Over the World* describes how law makers want to clamp down on automated social media accounts and disinformation.[2]

Until 2017, these firms were lionized and unregulated while installing lobbying arms in Washington. In *The Wealth of Networks,* Yochai Benkler takes a positive view of how social production transforms markets and freedom.[3] They are now seen as vastly profitable monopolies, exploiting the "winner take all" network effects of the Internet. Claiming to be merely technology platforms, with no responsibilities for content, these new data-fueled giants have business models relying on selling their users' personal information to advertisers. They use ever-more targeted algorithms offered to thousands of advertising and marketing companies and easily exploited by the Russian "bots" emanating from the St. Petersburg-based Internet Research Agency. Not until mid-2017 did the US Congress at last hold hearings, calling lawyers for Facebook, Twitter and Google. These representatives initially stone-walled on how their platforms were hijacked and contributed to the narrow election by some 70,000 votes, of Donald Trump, ratified by the obsolete Electoral College—in spite of candidate Hillary Clinton's popular 3 million vote majority. Eventually, Facebook CEO Mark Zuckerberg was shamed into testifying more truthfully.

Evidence that these social media companies had become "de facto" news sources for almost 50% of the US public, forced today's debate about how they should be regulated. Minimally, a consensus is emerging that all these companies must be re-classified as news media and held to the same journalistic standards of truth while publicly disclosing their advertisers, political funders and conflicts of interest. Microsoft scientist Jaron Lanier's *Ten Arguments for Why You Should Delete Your Social Media Accounts Now* (2018) calls for changing the business models of these companies from their current reliance on advertising and

addictive algorithms based on behavioral modification of users.　A consensus is emerging in the USA that these companies also should be broken up, using anti-trust regulation or become public utilities with government oversight.　Meanwhile new start-ups offer ad-blocking apps which are being rapidly adopted by online users, 19% in the USA, 24% in Canada, 29% in Germany, 39% in Greece and 58% in Indonesia, as reported in Bloomberg Businessweek[*].

The European Union (EU) General Data Protection Regulation (GDPR) is a model now in force which addresses the worst aspects of corporate data collection and surveillance of their users, including the so-called Internet of Things.[†] A New EU copyright law tightens the rules on use of content on big social media platforms requiring payments.[4] The US Congress created the Office of Technology Assessment (OTA) in the 1970s to prepare law-makers with knowledge needed when questioning witnesses like Facebook CEO Mark Zuckerberg on how their use of personal data drove their algorithms for vast profits. Through the 1980s, OTA provided congress members with needed background on all the technologies under public debate on their possible impacts on health, society and the environment.

OTA marshalled top experts from US universities and laboratories for their reports on future problems and possibilities…but gored too many sacred cows and special interests.　In 1996 Congress then slayed its OTA messenger.　The recent hearings on Facebook, Google, Amazon and Twitter on Russian hacking of our 2016 election saw congress members caught on camera, blindsided, ignorant of the technologies these giant companies use to build their billions of users and outsize profits. Twitter's claim to make its content conform to behavioral standards in its "health initiative" is critiqued by psychologist Prudy Gourguechon in Forbes.[5]

In our TV show "Social Media in the Crosshairs", NASA Chief Scientist Dennis Bushnell and I explore the need for oversight, new business models and possible anti-trust breakup of these social media monopolies.　We discussed ways people can protect themselves, their privacy, autonomy and safety from the dangers of hackers, spyware and cyber-attacks.　As the public faces the threats from automation, robots, artificial intelligence (AI) and the biased algorithms now controlling our daily lives, members of Congress are calling for restoring the dormant OTA.　The Federal Trade Commission (FTC) and other agencies try to replicate OTA's services, question these deeper issues and how these technologies are threatening our privacy, millions of jobs and even disrupting electric grids and financial services. Science policy researcher Katie Singer assesses the broader social and environmental impacts of the entire internet system globally, in her forthcoming *How On Earth Do We Shrink The Internet's Footprint?*

A report for McKinsey Global Institute—*Notes From the AI Frontier: Applications and Value of Deep Learning* (2018)—looks at 400 companies and how AI is expected to increase efficiency and profitability across 19 industrial sectors. No mention for what broader public purpose beyond private sector profit—the questions asked in all OTA studies.　For example, these advanced AI techniques teach computer algorithms to take over ever more tasks requiring "deep mind" judgements based on human brain functions. Thus, as Jaron

---

* See https://www.bloomberg.com/news/features/2018-05-10/inside-the-brotherhood-of-pi-hole-ad-blockers

† See "The Idiocy of Things" May 31, 2016 http://www.ethicalmarkets.com/the-idiocy-of-things-requires-an-information-habeas-corpus/

Lanier points out, training AI systems to translate languages requires feeding them human translators' knowledge. Then, the human translators' jobs disappear!

This McKinsey report notes that these "deep mind" capabilities, driven by such machine learning, require ever more access to personal data from humans. So consumers must be ever more closely monitored, tracked and surveilled to feed these computer algorithms. Only one of the 19 industrial sectors surveyed referenced any public interest or social purposes. The entire report focuses on "value" to companies, i.e. equated with increasing monetary revenues. In *Radical Markets* (2018), Eric Posner and E. Glen Weyl offer an approach to job losses; setting up unions for workers displaced by human-trained machines learning their skills. Artist Jennifer Lyn Morone counters "data slavery" by registering herself as a corporation to exploit her personal data.[6] Other proposals include paying all users of social media platforms for every bit of their personal information—feasible with existing software, according to Jaron Lanier in *Who Owns The Future* (2014).

McKinsey's conclusion is that progress in AI is expected to yield between $3.5 and $5.8 trillion of additional revenues for these commercial sectors. OTA, with its charter, would have begun by asking what public purpose was to be served and then assessing AI's long-term social and environmental impacts, costs and consequences for all segments of the US population. Grassroots opponents and radical academics in many countries also have government agencies similar to OTA which can report on social media, robots, automation, video-game addiction, and rapid digitalization of all sectors.

Struggles are heating up as to the ownership of personal information naively provided by users for the "free" use of these social platforms. These companies claim that they own all this personal data, since users agreed under the voluminous Terms and Conditions stated on their websites. Banks and financial firms claim that they own all their clients' personal data. Under the GDPR, assertions are that users, customers and citizens retain ownership of this personal data, e.g. "the right to be forgotten", but these rights are limited and tenuous in practice, when facing vastly superior corporate power.

Ethical Markets advocates extending the ancient English law "habeas corpus" to include personal ownership of our brains and all our information, an "information habeas corpus". Battles continue between civil rights groups and corporations over data control, with growing concern about the use of algorithms trained in facial recognition being used by police, sold by Amazon in the USA.[7] These algorithms are so biased that they target minorities unfairly, for example misidentifying African Americans.[8] These algorithms can also change audio and video tracks and photographs—creating new levels of disinformation.[9]

As the battle heats up over data of citizens in all countries, we are told that in this digital age, data is now seen as the primary resource—just as oil was in the fossil-fueled Industrial Era. Three different models of the Internet are emerging: (1) the US model of free and open access to all including commercial users; (2) the Chinese model of government coordinating and managing domestic populations and activities, and (3) the Russian model of geopolitical use by the state in information warfare, superior and cheaper than kinetic conflict. All these issues are discussed in *The Darkening Web* (2017) by Alexander Klimburg who describes

this global battle taking place at the International Telecommunications Union (ITU) in Geneva. Many reformers are designing electronic platforms they hope will become a new decentralized internet, such as Decenternet, Polka Dot and others, using blockchain models. Some of these efforts are discussed in The Economist.[10]

> *"Increasing education budgets, making higher education affordable or free, increasing MOOCs, mentoring, retraining and on-the-job apprenticeships are all essential."*

Digging deeper into the origins and development of the Silicon Valley oligopoly is *The Surveillance Valley* (2018) by Yasha Levine, who traces the military-funded foundations of the Internet and most of the so-called "entrepreneurial geniuses" of Silicon Valley. Levine documents how most of these young coders and their funders used government subsidies and still rely heavily on military contracts. Levine reveals shocking levels of interpenetration between these companies and the US military and related intelligence agencies. This book usefully lists many companies and how and with whom they operate. A chilling report "AI, Warbot" in *New Scientist* dated September 15, 2018 describes in detail how AI machine learning is already penetrating military strategies in a new kind of digital arms race, pointing out that these machine-learning algorithms are not taught anything about human abilities for deeper understanding, collaboration, empathy or the ability to grasp the horrendous outcomes that their speedy blind decisions may cause.[11]

The naiveté of computer scientists, mathematicians and developers of algorithms is breath-taking, as well as their use of the reified term "artificial intelligence" (AI) which is a misnomer, since the correct term should be "Human-Trained Machine Learning". This arrogance is on full display in *Prediction Machines* (2018), by co-authors Ajay Agrawal, Joshua Gans and Avi Goldfarb. They describe how these algorithms are designed to meet the narrow specialized efficiency goals of various contracting companies and financial firms, with the simple economic fundamentalism of most neoliberal textbooks—still taught in most business schools. The impacts on society and the public sector are discussed in a final chapter, as an after-thought. Similar reports abound by consultants like that cited earlier by McKinsey, as well as KPMG, business groups and most corporate-focused research. Examples include Deloitte and the World Economic Forum report *The New Physics of Financial Services* published in August 2018. A notable exception is *The Data Privacy Puzzle* from The Cornerstone Capital Group, New York for the Investor Responsibility Research Center (IRRC) Institute, August 2018, which assesses the viability and vulnerabilities of data-driven business models.

In *Capitalism Without Capital* (2018), authors Jonathan Haskel and Stian Westlake breezily describe the rise of the intangible economy and its effects on so many sectors.They discuss how accounting methods need to be retooled to value information, research, patents, copyrights, recipes, media products, brands, business

models and all these new intangible assets. These changes from the 20th century and earlier industrial societies are from economies based on physical, material goods to those based on services. Such intangible information-based products and services have become more dominant since the mid-1960s, when I co-founded a group, the National Citizens Committee for a Guaranteed Income with the author Robert Theobald of *The Guaranteed Income* (1966). These huge changes must be addressed, since the inequality and employment disruption they continue to produce are still festering, as documented by Thomas Piketty in *Capitalism in the 21st Century* (2017). If societies continue ignoring these unattended effects, democracies will continue to erode worldwide and the revolts of those bypassed and outsourced will continue to be exploited by demagogues. Increasing education budgets, making higher education affordable or free, increasing MOOCs, mentoring, retraining and on-the-job apprenticeships are all essential.

> *"Human judgement and examination of companies and their economic and social performance give way to mathematical models, algorithms and derivatives—all abstractions from real-world resources, risks and global environmental conditions reported daily by 120 Earth-orbiting satellites."*

The financialization unleashed in the 1980s by the current form of neoliberal economic policies is now itself challenged by digitalized cryptocurrencies (see *Money is Not Wealth: Cryptos v. Fiats*, 2017). The Bank for International Settlements (BIS) faced up to these challenges to central banking in Chapter 5: "Crypto Currencies: Looking Beyond the Hype", in the BIS Annual Economic Report published in June 2018. Grassroots groups like the Occupy movements are revealing the ideologies, myths and politics of money-creation and credit allocation (see our TV show "The Money Fix"). This is awakening many money reformers and spawning grassroots local currencies, such as the famous "Berkshires" of the Schumacher Center. Many are calling for universal guaranteed basic incomes (UBI) as reported in Forbes, as well as blockchain-based currencies and even new voting and democratic systems such as "Agora 2.0" proposed by Mariana Todorova, former member of the Parliament of Bulgaria. Calls for such reforms range from lawyer Ellen Brown's *The Public Bank Solution* (2013), Sovereign Money (2018) by Joseph Huber, *A Green Bank of England* (2018) by Positive Money, and the many similar proposals by the American Monetary Institute (AMI) and Canada's Committee on Monetary and Economic Reform (COMER).

The speed and power of current global financialization are driven by computerized stock and bond markets and their high-frequency trading (HFT) as I reported to the UNEP Inquiry on Design of Sustainable Finance, "Reforming Electronic Markets and Trading", (2014) and "FINTECH: Good and Bad News for Sustainable Finance" (2016), also at http://www.unepinquiry.org/. Over 50% of all securities trading on public exchanges is conducted by computers and algorithms while robotized investment advisors and asset managers and

their indexes, benchmarks and Exchange-traded Funds (ETFs) now dominate. Human judgement and examination of companies and their economic and social performance give way to mathematical models, algorithms and derivatives—all abstractions from real-world resources, risks and global environmental conditions reported daily by 120 Earth-orbiting satellites.[*]

"Reforming and expanding the UN is a necessary condition for the future of democratic states, international agreements and the subsidiarity allowing autonomous, equitable decision-making at regional and local levels."

This is a brief overview of challenges to democracies from information technologies beyond the hopeful visions of Marshall McLuhan, in his *Understanding Media* (1966) of an emerging *"global village"*. Today, political scientist Parag Khanna describes in *Connectography* (2017) how technological connectivity marches unabated in global fiber-optic cables, satellites and computerized HFT. These tools are accelerating financialization with globalized infrastructure, such as China's Belt and Road initiative, while cities are arising and challenging the Westphalian sovereignty of states and the United Nations (UN).

Most of humanity's global problems, from food security, poverty and inequality to desertification and climate change, cannot be solved by any one country alone. In this Age of the Anthropocene, the planet is teaching humans directly about the failures and limitations of our anthropocentric cognition and policies.

Thus global governance becomes unavoidable and the evolution of human concerns in the 17 goals of the United Nations Sustainable Development Goals (SDGs) point in the right direction. Reforming and expanding the UN is a necessary condition for the future of democratic states, international agreements and the subsidiarity allowing autonomous, equitable decision-making at regional and local levels. Reining in and re-purposing finance is a pre-requisite, along with breaking the spell described by Yuval Noah Harari in *Homo Deus* (2017) of the money myth and economic fundamentalism. Finance is slowly being redirected from the stranding of past fossil assets in too many pension funds now shifting to the cleaner, knowledge-rich investments in renewable energy and resource-based circular economies of the Solar Age, as tracked in our Green Transition Scoreboard (GTS) reports: *Deepening Green Finance* (2017) and *Capturing CO$_2$ while Improving Human Nutrition and Health* (2018). In our Information Age, all countries have become "mediocracies" , whatever their ostensible form of government, while their "attention economies" run on data, as I described in *Building A Win-Win-World* (1996, ebook).

Global governance structures must be strengthened and reinvented as described by Jo Leiner and Andreas Bummel in *A World Parliament: Governance and Democracy in the*

---

[*] See *Mapping the Global Transition to the Solar Age: From Economism to Earth Systems Science*, 2014

21ˢᵗ Century (2018). The UN and its SDGs and climate summits must be fairly and securely funded as in the proposals Harlan Cleveland, Inge Kaul and I co-edited in *The UN: Policy and Financing Alternative*s (1995, 1996). Our 7.5 billion member human family is coming up to graduation time on our home planet Earth and now must face all the global problems our limited perception has created. The Earth will survive humanity's mistakes in any case and life in its biosphere will continue.

Author contact information
Email: hazel.henderson@ethicalmarkets.com

Notes

1. "How to fix what has gone wrong with the internet" *The Economist* June 30, 2018 https://www.economist.com/special-report/2018/06/28/how-to-fix-what-has-gone-wrong-with-the-internet

2. Chris Stokel-Walker, "The race to stop bots from taking over the world," *New Scientist* 239, no. 3186 (2018): 22-23

3. Yochai Benkler, *The Wealth of Networks* (New Haven and London: Yale University Press, 2006)

4. "Screen Grab" *The Economist* September 13, 2018 https://www.economist.com/business/2018/09/15/a-controversial-new-copyright-law-moves-a-step-closer-to-approval

5. Prudy Gourguechon, "Can Twitter's Bid To Make The Social Media Environment 'Healthier' Possibly Work?" *Forbes* September 17, 2018 https://www.forbes.com/sites/prudygourguechon/2018/09/16/can-twitters-health-initiative-make-a-difference/#194fa047687f

6. "What if people were paid for their data?" *The Economist* July 7, 2018 https://www.economist.com/the-world-if/2018/07/07/what-if-people-were-paid-for-their-data

7. Elizabeth Dwoskin, "Amazon is selling facial recognition to law enforcement—for a fistful of dollars" *The Washington Post* May 22, 2018 https://www.washingtonpost.com/news/the-switch/wp/2018/05/22/amazon-is-selling-facial-recognition-to-law-enforcement-for-a-fistful-of-dollars/

8. Lizette Chapman and Joshua Brustein, "A.I. Has a Race Problem" *Bloomberg Business Week* 2 July, 2018 https://www.bloomberg.com/news/articles/2018-06-26/ai-has-a-race-problem

9. Alice Klein, "AI can predict your personality just by how your eyes move" *New Scientist* 12 May, 2018 https://www.newscientist.com/article/mg23831771-100-ai-can-predict-your-personality-just-by-how-your-eyes-move/

10. "There is no single solution to making the internet more decentralized," *The Economist* June 20, 2018 https://www.economist.com/special-report/2018/06/30/there-is-no-single-solution-to-making-the-internet-more-decentralised

11. Kenneth Payne. "AI, Warbot," *New Scientist* 239, no. 3195 (2018): 41-43.