

Comment



AFP VIA GETTY

Protests against racism in Detroit, Michigan, and many other US cities in 1967 prompted attempts to forecast future demonstrations.

Scientists use big data to sway elections and predict riots – welcome to the 1960s

Jill Lepore

A cold-war-era corporation targeted voters and presaged many of today's big-data controversies.

Ignorance of history is a badge of honour in Silicon Valley. “The only thing that matters is the future,” self-driving-car engineer Anthony Levandowski told *The New Yorker* in 2018 (ref. 1).

Levandowski, formerly of Google, Uber and Google's autonomous-vehicle subsidiary Waymo (and recently sentenced to 18 months in prison for stealing trade secrets), is no outlier. The gospel of ‘disruptive innovation’ depends on the abnegation of history². ‘Move

fast and break things’ was Facebook's motto. Never look back. Another word for this is heedlessness. And here are a few more: negligence, foolishness and blindness.

Much of what technology leaders tout as original has been done before – and long ago. Yet few engineers and developers realize that they're stuck in a rut. That lack of awareness has costs, both economic and ethical.

Consider the strange trajectory of the Simulmatics Corporation, founded in New York City in 1959. (Simulmatics, a mash-up of ‘simulation’ and ‘automatic’, meant then what ‘artificial intelligence (AI)’ means now.) Its controversial work included simulating elections – just like that allegedly ‘pioneered’ by the now-defunct UK firm Cambridge Analytica on behalf of UK Brexit campaigners in 2015

and during Donald Trump's US presidential election campaign in 2016.

Journalists accused Trump's fixers of using a “weaponized AI propaganda machine” capable of “nearly impenetrable voter manipulation”. New? Hardly. Simulmatics invented that in 1959. They called it the People Machine.

As an American historian with an interest in politics, law and technology, I came across the story of the Simulmatics Corporation five years ago when researching an article about the polling industry³. Polling was, and remains, in disarray. Now, it's being supplanted by data science: why bother telephoning someone to ask her opinion when you can find out by tracking her online?

Wondering where this began took me to the Massachusetts Institute of Technology (MIT)

in Cambridge, to the unpublished papers of political scientist Ithiel de Sola Pool. He helped to establish the Simulmatics Corporation and led the cold-war-era campaign to bring behavioural science into the defence industry, campaigning and commerce. This story struck me as so essential to modern ethical dilemmas around data science, from misinformation and election interference to media manipulation and predictive policing, that I wrote a book about it: *If Then: How the Simulmatics Corporation Invented the Future* (2020).

Simulmatics, hired first by the US Democratic Party's National Committee in 1959 and then by the John F. Kennedy campaign in 1960, pioneered the use of computer simulation, pattern detection and prediction in American political campaigning. The company gathered opinion-poll data from the archives of pollsters George Gallup and Elmo Roper to create a model of the US electorate.

They split voters into 480 types – Democratic female blue-collar Midwesterner who voted for Democratic presidential candidate Adlai Stevenson in 1952 but for the Republican Dwight D. Eisenhower in 1956, say. And they assigned issues of concern, such as the importance of civil rights or a strong stand against the Soviet Union, into 60 clusters. It was, at the time, the largest such project ever conducted. It involved what Simulmatics called “massive data” decades before ‘big data’ became a buzzword.

Simulmatics was staffed by eminent scientists. Led by Pool, the group included researchers from MIT, Yale University in New Haven, Connecticut, Johns Hopkins University in Baltimore, Maryland, and Columbia University in New York City. It also included Alex Bernstein from IBM, who had written the first chess-playing computer program. Many of them, including Pool, had been trained by Yale political scientist Harold Lasswell, whose research on communication purported to explain how ideas get into people's heads: in short, who says what, in which channel, to whom, with what effect? During the Second World War, Lasswell studied the Nazis' use of propaganda and psychological warfare. When those terms became unpalatable after the war ended, the field got a new name – mass-communications research. Same wine, new bottle.

Like Silicon Valley itself, Simulmatics was an artefact of the cold war. It was an age obsessed with prediction, as historian Jenny Andersson showed in her brilliant 2018 book, *The Future of the World*. At MIT, Pool also proposed and headed Project ComCom (short

for Communist Communications), funded by the US Department of Defense's Advanced Research Projects Agency (ARPA). Its aim, in modern terms, was to try to detect Russian hacking – “to know how leaks, rumors, and intentional disclosures spread” as Pool described it.

The press called Simulmatics scientists the “What-If Men”, because their work – programming an IBM 704 – was based on endless what-if simulations. The IBM 704 was billed as the first mass-produced computer capable of doing complex mathematics. Today, this kind of work is much vaunted and lavishly funded. The 2018 *Encyclopedia of Database Systems* describes ‘what-if analysis’ as “a data-intensive simulation”. It refers to it as “a relatively recent discipline”. Not so.

Winning ways

John F. Kennedy won the 1960 US presidential election by the closest popular-vote margin since the 1880s – 49.7% to Richard Nixon's 49.5%. Before Kennedy's inauguration, a storm erupted when *Harper's* magazine featured a shocking story: a top-secret computer called the People Machine, invented by mysterious What-If Men, had in effect elected Kennedy. Lasswell called it “the A-bomb of the social sciences”.

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Kennedy had been trailing Nixon in the polls all summer. He had gained on Nixon in the autumn for three reasons: Kennedy championed civil rights and increased his share of African American votes; as a Catholic, he took a strong stance on freedom of religion; and he outperformed Nixon in four televised debates. Simulmatics had recommended each of these strategies.

Uproar broke out. *The New York Herald Tribune* called the People Machine Kennedy's “secret weapon”. *The Chicago Sun-Times* wondered whether politicians of the future would have to “Clear it with the P.-M.”. An Oregon newspaper expressed the view that Simulmatics had reduced voters to “little holes in punch cards”, and that, by denying the possibility of dissent, the People Machine made “the tyrannies of Hitler, Stalin and their forebears look like the inept fumbling of a village bully”.

Worse, Kennedy had campaigned against

automation. In St Louis, Missouri, in September 1960 he'd delivered a speech warning about the “replacement of men by machines”. A Kennedy campaign brochure asked: “If Automation takes over your job ... who will you want in the White House?” Newspaper editors and commentators charged him with hypocrisy.

The ensuing debate raised questions that are still asked today – urgently. Can computers rig elections? What does election prediction mean for democracy? What does automation mean for humanity? What happens to privacy in an age of data? There were no answers then, as now. Lasswell merely admitted: “You can't simulate the consequences of simulation.”

The most prescient critique came from another of Lasswell's former collaborators, Eugene Burdick. His dystopian novel *The 480*, published in 1964, described a barely fictionalized organization called Simulations Enterprises. In a sober preface, Burdick, a political scientist at the University of California, Berkeley, and bestselling novelist – known for co-authoring *The Ugly American* in 1958 – warned against the political influence of what is now called data science.

“The new underworld is made up of innocent and well-intentioned people,” he wrote. Most of them are “highly educated, many with PhDs”. They “work with slide rules and calculating machines and computers which can retain an almost infinite number of bits of information as well as sort, categorize, and reproduce this information at the press of a button”.

Although none of the researchers he had met “had malignant political designs on the American public”, Burdick warned, their very lack of interest in contemplating the possible consequences of their work stood as a terrible danger. Indeed, they might “radically reconstruct the American political system, build a new politics, and even modify revered and venerable American institutions – facts of which they are blissfully innocent”.

Burdick knew these researchers, and he had worked with Pool as well as Lasswell. He spied in their ambition, in their enthrallment with the capacities of computers, the wide-eyed heedlessness that remains Silicon Valley's Achilles heel.

Big business

Buoyed by the buzz of Kennedy's election, Simulmatics began an advertising blitz. Its 1961 initial stock offering set out how the company would turn prediction into profit – by gathering massive data, constructing mathematical models of behavioural processes, and using them to simulate “probable group behaviour”.

The firm pitched its services to media companies, government departments and advertising agencies, with mixed success. It persuaded executives from the Motion Picture Association of America, MGM film studios and Columbia Records to set up forms of analysis that would ultimately, when it was possible to collect enough data to make this work, lead to Netflix and Spotify. It proposed a “mass culture model” to collect consumer data across all media – publishing houses, record labels, magazine publishers, television networks, and film studios – to direct advertising and sales. It sounds a lot like Amazon.

Simulmatics introduced what-if simulation to the advertising industry, targeting consumers with custom-fit messages. In 1962, it became the first data firm to provide real-time computing to a US newspaper, *The New York Times*, for analysing election results. For the government, it proposed models to aid public-health campaigns, water-distribution systems, and, above all, the winning of hearts and minds in Vietnam.

In 1963, on behalf of the Kennedy administration, Simulmatics simulated the entire economy of Venezuela, with an eye to halting the advance of socialism and communism. A larger project to undertake such work throughout Latin America, mostly designed by Pool and known as Project Camelot, became so controversial that the next president, Lyndon B. Johnson, dismantled it.

After 1965, Simulmatics conducted psychological research in Vietnam as part of a bigger project to use computers to predict revolutions. Much of this work built on earlier research by Lasswell and Pool, identifying and counting keywords, such as ‘nationalism’, in foreign-language newspapers that might indicate the likelihood of coups. Such topic-spotting is the precursor to Google Trends.

Growing unrest

Simulmatics brought those counter-insurgency methods home in 1967 and 1968, as protests against racial injustice broke out on the streets of US cities such as Los Angeles, California, and Detroit, Michigan. The company attempted to build a race-riot prediction machine for the Johnson administration. It failed. But its cockeyed ambition – the drive to forecast political unrest – was widely shared, and has endured, not least in the ethically indefensible work of predictive policing.

Civil-rights activists, then as now, had little use for such schemes. “I will not predict riots,” James Farmer, head of the Congress of Racial Equality, said on CBS TV’s *Face the Nation* in April 1965. “No one has enough knowledge to know that.” The real issue, he pointed out, was that no one was addressing the problems that led to unrest. “I am not going to predict rioting here,” Martin Luther King Jr told the press in Cleveland, Ohio, in June 1967.

But the fantasy of computer-aided riot prediction endured, as widely and passionately held as the twenty-first century’s dream that all urban problems can be solved by ‘smart cities’, and that civil unrest, racial inequality and police brutality can be addressed by more cameras, more data, bigger computers and yet more what-if algorithms.

Predictive demise

Simulmatics began to unravel in 1969. Student protesters at MIT accused the company of war crimes for its work in Vietnam. They even held a mock trial of Pool, calling him a war criminal. “Simulmatics looks like nothing more than a dummy corporation through which Pool runs his outside Defense work,” the *New Republic* reported. “Simulation companies are not so popular as they once were; their proprietors are often regarded as cultists, and the generals who were persuaded to hire them by liberals in the Kennedy and early Johnson administrations are sour on the whole business.”

There were problems with early predictive analytics, too. Data were scarce, computers were slow. Simulmatics filed for bankruptcy in 1970, and vanished.

Pool went on to become a prophet of technological change. “By 2018 it will be cheaper to store information in a computer bank than on paper,” he wrote in 1968, in a contribution to a book called *Toward the Year 2018* (ref. 4). Tax returns, social security and criminal records would all be stored on computers, which could communicate with one another over a vast international network.

People living in 2018 would be able to find out anything about anyone, he wrote, without ever leaving their desks. “The researcher sitting at his console will be able to compile a cross-tabulation of consumer purchases (from store records) by people of low IQ (from school records) who have an unemployed member of the family (from social security records).”

Would he have the legal right to do so? Pool had no answer: “This is not the place to speculate how society will achieve a balance between its desire for knowledge and its desire for privacy.”

Collective amnesia

Before his early death in 1984, Pool was also a key force behind the founding of the most direct descendant of Simulmatics, the MIT Media Lab. Pool’s work underlies the rules – or lack of them – that prevail on the Internet. Pool also founded the study of “social networks” (a term he coined); without it, there would be no Facebook. Pool’s experiences with student unrest at MIT – and especially with the protests against Simulmatics – informed his views on technological change and ethics. Look forward. Never look back.

In 1966, Pool described the social sciences as “the new humanities of the Twentieth

Century”⁵. Although leaders in times past had consulted philosophy, literature and history, those of the cold-war era, he argued, were obligated to consult the social sciences. Given a choice between “policy based on moralisms and policy based on social science”, he was glad to report that the United States, in conducting the war in Vietnam, had rejected the former in favour of rationality.

To me, this sounds a lot like Levandowski. “I don’t even know why we study history,” Levandowski said in 2018 (ref. 1). “It’s entertaining, I guess – the dinosaurs and the Neanderthals and the Industrial Revolution and stuff like that. But what already happened doesn’t really matter.” Except, it does matter. Attempting to thwart revolt and defeat social unrest by way of predictive algorithms has been tried before; it failed, and was ethically indefensible.

This summer, under pressure from the Black Lives Matter movement, US police departments are abandoning predictive policing, an industry led by the data-analytics firm PredPol in Santa Cruz, California. IBM and Google have, at least publicly, pulled back from another form of algorithm-driven surveillance, facial recognition. Maybe these detours might have been avoided if the people developing them had stopped to consider their origins in the Vietnam War.

It’s worth remembering, too, that protesters at the time understood that connection. In 1969, MIT activists objecting to companies such as Simulmatics asked what, really, was the point of making human behaviour a predictive science, in a world of agonizing inequalities of power. What was it all for? How was it likely to be used?

As one student protester asked in an anti-war pamphlet: “To do what? To do things like estimate the number of riot police necessary to stop a ghetto rebellion in city X that might be triggered by event Y because of communications pattern K given Q number of political agitators of type Z?”

It’s a question worth asking today, all over again.

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