

YouTube, the Great Radicalizer, Zeynep Tufekci.
New York Times, March 10, 2018.

Zeynep Tufekci is an associate professor at the School of Information and Library Science at the University of North Carolina at Chapel Hill and the author of “Twitter and Tear Gas: The Power and Fragility of Networked Protest.”

At one point during the 2016 presidential election campaign, I watched a bunch of videos of Donald Trump rallies on YouTube. I was writing an article about his appeal to his voter base and wanted to confirm a few quotations.

Soon I noticed something peculiar. YouTube started to recommend and “autoplay” videos for me that featured white supremacist rants, Holocaust denials and other disturbing content.

Since I was not in the habit of watching extreme right-wing fare on YouTube, I was curious whether this was an exclusively right-wing phenomenon. So I created another YouTube account and started watching videos of Hillary Clinton and Bernie Sanders, letting YouTube’s recommender algorithm take me wherever it would.

Before long, I was being directed to videos of a leftish conspiratorial cast, including arguments about the existence of secret government agencies and allegations that the United States government was behind the attacks of Sept. 11. As with the Trump videos, YouTube was recommending content that was more and more extreme than the mainstream political fare I had started with.

Intrigued, I experimented with nonpolitical topics. The same basic pattern emerged. Videos about vegetarianism led to videos about veganism. Videos about jogging led to videos about running ultramarathons.

It seems as if you are never “hard core” enough for YouTube’s recommendation algorithm. It promotes, recommends and disseminates videos in a manner that appears to constantly up the stakes. Given its billion or so users, YouTube may be one of the most powerful radicalizing instruments of the 21st century.

This is not because a cabal of YouTube engineers is plotting to drive the world off a cliff. A more likely explanation has to do with the nexus of artificial intelligence and Google’s business model. (YouTube is owned by Google.) For all its lofty rhetoric, Google is an advertising broker, selling our attention to companies that will pay for it. The longer people stay on YouTube, the more money Google makes. What keeps people glued to YouTube? Its algorithm seems to have concluded that people are drawn to content that is more extreme than what they started with — or to incendiary content in general.

Is this suspicion correct? Good data is hard to come by; Google is loath to share information with independent researchers. But we now have the first inklings of confirmation, thanks in part to a former Google engineer named Guillaume Chaslot.

Mr. Chaslot worked on the recommender algorithm while at YouTube. He grew alarmed at the tactics used to increase the time people spent on the site. Google fired him in 2013, citing his job performance. He maintains the real reason was that he pushed too hard for changes in how the company handles such issues.

The Wall Street Journal [conducted an investigation](#) of YouTube content with the help of Mr. Chaslot. It found that YouTube often “fed far-right or far-left videos to users who watched relatively mainstream news sources,” and that such extremist tendencies were evident with a wide variety of material. If you searched for information on the flu vaccine, you were recommended anti-vaccination conspiracy videos.

It is also possible that YouTube’s recommender algorithm has a bias toward inflammatory content. In the run-up to the 2016 election, Mr. Chaslot created a program to keep track of YouTube’s most recommended videos as well as its patterns of recommendations. He discovered that whether you started with a pro-Clinton or pro-Trump video on YouTube, you were [many times more likely](#) to end up with a pro-Trump video recommended.

Combine this finding with other research showing that during the 2016 campaign, fake news, which tends toward the outrageous, [included much more pro-Trump](#) than pro-Clinton content, and YouTube’s tendency toward the incendiary seems evident.

YouTube has recently come under fire for recommending videos promoting the conspiracy theory that the outspoken survivors of the school shooting in Parkland, Fla., are “crisis actors” masquerading as victims. Jonathan Albright, a researcher at Columbia, recently “seeded” a YouTube account with a search for “crisis actor” and found that following the “up next” recommendations led to a network of some 9,000 videos promoting that and related conspiracy theories, including the claim that the 2012 school shooting in Newtown, Conn., was a hoax.

What we are witnessing is the computational exploitation of a natural human desire: to look “behind the curtain,” to dig deeper into something that engages us. As we click and click, we are carried along by the exciting sensation of uncovering more secrets and deeper truths. YouTube leads viewers down a rabbit hole of extremism, while Google racks up the ad sales.

Human beings have many natural tendencies that need to be vigilantly monitored in the context of modern life. For example, our craving for fat, salt and sugar, which served us well when food was scarce, can lead us astray in an environment in which fat, salt and sugar are all too plentiful and heavily marketed to us. So too our natural curiosity about the unknown can lead us astray on a website that leads us too much in the direction of lies, hoaxes and misinformation.

In effect, YouTube has created a restaurant that serves us increasingly sugary, fatty foods, loading up our plates as soon as we are finished with the last meal. Over time, our tastes adjust, and we seek even more sugary, fatty foods, which the restaurant dutifully provides. When confronted about this by the health department and concerned citizens, the restaurant managers reply that they are merely serving us what we want.

This situation is especially dangerous given how many people — especially young people — turn to YouTube for information. Google’s cheap and sturdy Chromebook laptops, which now make up more than 50 percent of the pre-college laptop education market in the United States, typically come loaded with ready access to YouTube.

This state of affairs is unacceptable but not inevitable. There is no reason to let a company make so much money while potentially helping to radicalize billions of people, reaping the financial benefits while asking society to bear so many of the costs.

“I invested early in Google and Facebook. Now they terrify me.” Roger McNamee.
USA Today, Aug. 10, 2017.

Roger McNamee is an American businessman, investor, venture capitalist and musician. He is the managing director and a co-founder of Elevation Partners, an investment partnership focused on media/entertainment content and consumer technology.

USA Today is an internationally distributed American daily newspaper. The newspaper has a generally centrist audience and is published in all 50 states.

Context: large social media and internet companies have faced a series of scandals over the past few years around issues such as privacy, monopoly power, access to consumer information, fake news and media manipulation.

I invested in Google and Facebook years before their first revenue and profited enormously. I was an early adviser to Facebook’s team, but I am terrified by the damage being done by these Internet monopolies.

Technology has transformed our lives in countless ways, mostly for the better. Thanks to the now ubiquitous smartphone, tech touches us from the moment we wake up until we go to sleep. While the convenience of smartphones has many benefits, the unintended consequences of well-intentioned product choices have become a menace to public health and to democracy.

Facebook and Google get their revenue from advertising, the effectiveness of which depends on gaining and maintaining consumer attention. Borrowing techniques from the gambling industry, Facebook, Google and others exploit human nature, creating addictive behaviors that compel consumers to check for new messages, respond to notifications, and seek validation from technologies whose only goal is to generate profits for their owners.

The people at Facebook and Google believe that giving consumers more of what they want and like is worthy of praise, not criticism. What they fail to recognize is that their products are not making consumers happier or more successful. Like gambling, nicotine, alcohol or heroin, Facebook and Google — most importantly through its YouTube subsidiary — produce short-term happiness with serious negative consequences in the long term. Users fail to recognize the warning signs of addiction until it is too late. There are only 24 hours in a day, and technology companies are making a play for all them. The CEO of Netflix recently noted that his company’s primary competitor is sleep.

How does this work? A 2013 study found that average consumers check their smartphones 150 times a day. And that number has probably grown. People spend 50 minutes a day on Facebook. Other social apps such as Snapchat, Instagram and Twitter combine to take up still more time. Those companies maintain a profile on every user, which grows every time you like, share, search, shop or post a photo. Google also is analyzing credit card records of millions of people.

As a result, the big Internet companies know more about you than you know about yourself, which gives them huge power to influence you, to persuade you to do things that serve their economic interests.

Facebook, Google and others compete for each consumer's attention, reinforcing biases and reducing the diversity of ideas to which each is exposed. The degree of harm grows over time.

Consider a recent story from Australia, where someone at Facebook told advertisers that they had the ability to target teens who were sad or depressed, which made them more susceptible to advertising. In the United States, Facebook once demonstrated its ability to make users happier or sadder by manipulating their news feed. While it did not turn either capability into a product, the fact remains that Facebook influences the emotional state of users every moment of every day. Former Google design ethicist Tristan Harris calls this "brain hacking."

The fault here is not with search and social networking, per se. Those services have enormous value. The fault lies with advertising business models that drive companies to maximize attention at all costs, leading to ever more aggressive brain hacking.

The Facebook application has 2 billion active users around the world. Google's YouTube has 1.5 billion. These numbers are comparable to Christianity and Islam, respectively, giving Facebook and Google influence greater than most First World countries. They are too big and too global to be held accountable. Other attention-based apps — including Instagram, WhatsApp, WeChat, SnapChat and Twitter — also have user bases between 100 million and 1.3 billion. Not all their users have had their brains hacked, but all are on that path. And there are no watchdogs.

Anyone who wants to pay for access to addicted users can work with Facebook and YouTube. Lots of bad people have done it. One firm was caught using Facebook tools to spy on law abiding citizens. A federal agency confronted Facebook about the use of its tools by financial firms to discriminate based on race in the housing market. America's intelligence agencies have concluded that Russia interfered in our election and that Facebook was a key platform for spreading misinformation. For the price of a few fighter aircraft, Russia won an information war against us.

Incentives being what they are, we cannot expect Internet monopolies to police themselves. There is little government regulation and no appetite to change that. If we want to stop brain hacking, consumers will have to force changes at Facebook and Google.

Social Media Has Hijacked Our Brains and Threatens Global Democracy

David Golumbia is an [associate professor of English](#) at Virginia Commonwealth University, where he teaches digital studies and theory.

The so-called social media revolution isn't what it's cracked up to be. Sites like Twitter and Facebook exacerbate emotions like outrage and fear—and don't help democracy flourish.

Nearly a decade ago, particularly from 2009 through about 2011, commentators crowed about something called the "[Facebook revolution](#), the "[Twitter revolution](#)" or simply the "[social media revolution](#)." They were often unclear about what that revolution was. But whatever it was supposed to be, it involved social media and it was happening everywhere, or at least everywhere that wasn't the west: [Iran](#), [Moldova](#), [Tunisia](#), [Egypt](#), as well throughout the Middle East, via what was dubbed the "[Arab](#)

[Spring.](#)” (Interestingly, the current Iranian protests appear to be happening despite the government reportedly [blocking many social media sites and messaging apps](#), and without the triumphalist technology commentaries we saw in 2009.)

Because of the advent of social media, the story seemed to go, tyrants would fall and democracy would rule. Social media communications were supposed to translate into a political revolution, even though we don’t necessarily agree on what a positive revolution would look like. The process is overtly emotional: The outrage felt translates directly, thanks to the magic of social media, into a “rebellion” that becomes democratic governance.

But social media has not helped these revolutions turn into lasting democracies. Social media speaks directly to the most reactive, least reflective parts of our minds, demanding we pay attention even when our calmer selves might tell us not to. It is no surprise that this form of media is especially effective at promoting hate, [white supremacy](#), and public humiliation.

Social media too easily bypasses the rational or at least reasonable parts of our minds, on which a democratic public sphere depends. It speaks instead to the emotional, reactive, quick-fix parts of us, that are satisfied by images and clicks that look pleasing, that feed our egos, and that make us think we are heroic. But too often these feelings come at the expense of the deep thinking, planning, and interaction that democratic politics are built from. This doesn’t mean reasoned debate can’t happen online; of course it can and does. It means that there is a strong tendency—what media and technology researchers call an “affordance”—away from dispassionate debate and toward strong emotions.

On February 11, 2011, at the height of the Arab Spring, on the day Egyptian President Hosni Mubarek resigned, ex-Google marketing executive and activist [Wael Ghonim](#) famously [said](#): “A lot of this revolution started on Facebook. If you want to liberate a society, just give them the internet. If you want to have a free society, just give them internet.”

Yet in February 2016, to much less fanfare, while promoting a project called Parlio that eventually merged into Quora, Ghonim [expressed reservations](#) about his original claims. While he still believes that “social media is redistributing political power,” he now worries that “the power to develop networks, organize actions and exchange information at scale in a short period of time” can have “a drastic impact on civic life—positive or negative.”

While he sees them as separate, I am suggesting that what Ghonim calls the “never-ending popularity contest” of social media is in large part the same phenomenon that led to the failed political aspirations of the Arab Spring.

Consider for example whether the election of Donald Trump, and the United Kingdom referendum to exit the European Union (so-called “Brexit”) deserve to also be called social media revolutions. They capture in elegant form exactly what some have always believed to be the likely societal impact of social media: The replacement of other forms of political media, such as television, newspapers, and radio. The 2016 elections represent the marshalling of emotional, reactive, “me-first” politics over the rational and considered deliberation that are at the heart of democratic governance. Almost every day, news stories are published further detailing how social media platforms were used to spread propaganda and manipulate the [2016 Trump and Brexit elections](#).

One of the reasons that social media is so powerful for propagandists is that they are able to leverage

the vast amounts of data that platforms like Facebook collect, and then weaponize it using psychological targeting techniques. Data analysts are able to “nudge” individual behaviors based on data points as apparently innocuous as “liking” [a particular brand of cosmetics](#).

Even Donald Trump himself believes that “[without social media](#),” he very likely would not have been elected, and [many scholars](#) agree.

One way social media often exploits our most simple emotions can be found [in two 2007-2008 meetings](#) between Nobel Prize-winning behavioral economists [Daniel Kahneman](#) and Pulitzer Prize winner [Richard Thaler](#) and many of the most powerful people in tech, who are discussed briefly in Jamie Bartlett’s recent BBC documentary [Secrets of Silicon Valley](#).

In [2007](#) and again in [2008](#), Kahneman gave a class in “[Thinking, About Thinking](#)” to a powerful group of executives from companies like Google, Twitter, Facebook, Wikipedia Microsoft, and Amazon (he also gave another talk about “[Thinking, Fast and Slow](#)” at Google in 2011). Kahneman is well known for bringing public awareness to the distinction between so-called “[System 1](#)” and “[System 2](#)” thinking. System 2 is good old fashioned, actual, “slow” thinking, it’s “effortful, infrequent, logical, calculating, conscious.” System 2 is the kind of rational cogitation we like to imagine we do all the time. System 1 is “fast” thinking, fight or flight, “automatic, frequent, emotional, stereotypic, subconscious.”

Facebook and Twitter are built on System 1, as is most social media. That’s why so many tech executives were at those master classes. And that’s what they learned there: How to craft media that talks to System 1 and bypasses System 2. You don’t have to look far to see digital technology developers [recommending](#) that their products speak exclusively to System 1.

Social media “primes” us—it asks us to throw System 1 thinking at issues that we know we should use System 2 for. It’s been that way from the beginning. Zuckerberg’s precursor to Facebook, the Harvard version of “[hot or not](#)” called [Facemash](#), certainly exploited System 1, and Facebook’s News Feed does the same today. Sean Parker, the founding president of Facebook, stated this clearly in [a November 9 interview](#) with Mike Allen of *Axios*: “The thought process that went into building these applications, Facebook being the first of them, ...was all about: ‘How do we consume as much of your time and conscious attention as possible?’”

Parker went on: “It’s a social-validation feedback loop...exactly the kind of thing that a hacker like myself would come up with, because you’re exploiting a vulnerability in human psychology.” In the same month, former Facebook VP for user growth Chamath Palihapitiya [stated in a talk at Stanford](#) that social media companies “have created tools that are ripping apart the social fabric of how society works.”

Parker and Palihapitiya are not alone in making these observations. Roger McNamee, a venture capitalist and early stage investor in both Google and Facebook, wrote in an [op-ed](#) recently that these companies “have consciously combined persuasive techniques developed by propagandists and the gambling industry with technology in ways that threaten public health and democracy.” In a [CNN op-ed](#), two criminal justice experts stated that “social media has transformed stories that might have been dismissed as conspiracy theories into what some tout as conventional wisdom” and that “For the once anonymous extremist, the appeal of quantifiable social status... is too great.”

In late 2016, an international award called the [Nine Dots Prize](#), established in part by Cambridge University, solicited for entries to its inaugural [competition](#). The judges were looking for answers to the

question “Are Digital Technologies Making Politics Impossible?” The [winner](#), James Williams, a former Google advertising executive, wrote that social media and digital technologies are “designed to exploit our psychological vulnerabilities in order to direct us toward goals that may or may not align with our own.” In a recent interview with *The Guardian* he went further and [stated](#) that “the attention economy is directly undermining the assumptions that democracy rests on.” Williams is among a small group of former Silicon Valley workers who participated in building technologies whose purpose [they themselves describe](#) as “hijacking our minds.”

Summarizing academic research from as long ago as 2008, Knight-Mozilla Fellow Sonya Song [wrote in 2013](#) that although “people constantly switch between fast and slow thinking modes...on social media, people are mostly guided by the fast mode.” Recent books by Natasha Dow-Schüll ([Addiction by Design: Machine Gambling in Las Vegas](#), 2013) and Adam Alter ([Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked](#), 2017) detail the social media industry’s deliberate use of mind-hijacking techniques. And pediatrician Robert Lustig goes further in explaining how these techniques work in his book [The Hacking of the American Mind: The Science Behind the Corporate Takeover of Our Bodies and Brains](#) (2017).

Far too many of us have implicitly believed technology would solely be a force for good. But there is almost no reason to think this is true. Many [scholars have argued](#) that the world has grown [less democratic](#) since the internet was introduced. It is important at least to consider the possibility that these things are connected: That the internet’s democratic promise isn’t what it seems.

The gadgets we use and the social media we engage with are all designed to compel our attention by short-circuiting the more considered aspects of our brains. Why should we imagine that this short-circuit leads to more democracy, when world history shows that System 1 thinking, at least when not tempered by its complement, leads to authoritarianism and violence?

Those who celebrated the Facebook revolution and the Twitter revolution were celebrating the replacement of (relatively) calm reflection with the politics of reactivity and passion. This domination of System 2 by System 1 thinking is the real social media “revolution.” The question that remains is whether democracies have both the will, and the means to bring considered thought back to politics, or, whether digital technology has made politics impossible.