AMERICAN COMPASS
READER

JUNE 2021

EST 2020

AMERICAN COMPASS

Our Mission

To restore an economic consensus that emphasizes the importance of family, community, and industry to the nation's liberty and prosperity–

REORIENTING POLITICAL FOCUS from growth for its own sake to widely shared economic development that sustains vital social institutions.

SETTING A COURSE for a country in which families can achieve self-sufficiency, contribute productively to their communities, and prepare the next generation for the same

HELPING POLICYMAKERS NAVIGATE the limitations that markets and government each face in promoting the general welfare and the nation's security.

AMERICAN COMPASS is a 501(c)(3) nonprofit organization with headquarters at
300 Independence Avenue SE, Washington, DC 20003.

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The digital revolution has transformed our civilization as dramatically as the industrial revolution two centuries earlier. Personal computing and ubiquitous connectivity change how information is created, stored, shared, applied, and consumed, upending the basic assumptions on which our market, our democracy, and our society have relied. As in previous technological revolutions, these changes portend extraordinary progress and can improve life in countless ways. Without guardrails installed on behalf of the common good, though, they will fail to fulfill their promise and threaten instead to undermine cherished values, institutions, and relationships.

The modern state, for all its flaws, imposes rules and provides resources that we take for granted as indispensable: prohibitions on child labor, permitting requirements for dumping waste in a river, and a speed limit, as well as public schools, Social Security, and deposit insurance. All those might have seemed out of place, if not downright nonsensical, in earlier eras; they emerged as waves of technological change brought new social and economic conditions. Of course, they emerged neither quickly nor spontaneously. Rather, they are the result of decisions made by policymakers after much trial and error, in response to challenges that had become too acute to ignore any longer. The process is rarely a pretty one, but reaching its end requires that we start and then persevere.

We are at the start of such a process now, which would benefit from greater clarity of thought. Political conversation swirls around "Big Tech," which has

become shorthand for a potpourri of overlapping issues, including monopoly power and market concentration, censorship and political influence, and consumer abuse and manipulation. Companies with business models—and, indeed, industries—as disparate as Apple, Google, Amazon, and Facebook are treated as a monolithic challenge. A remarkable share of debate centers on Section 230, a minor provision of the Communications Decency Act (1996) that, for all its flaws, has played only a small role in the digital age's broader transformation and can offer little relief through reform. One could be forgiven the suspicion that this morass is precisely how the experts and entrenched interests like it, lest attention focus on the more fundamental problems at hand.

Old Questions of Power, New Ones of the Super Market

Making sense of the challenge requires dividing it into three separate parts. The first of these, as the "Big" in "Big Tech" suggests, is the market power and anticompetitive behavior of the firms that control the platforms on which key products and services are offered. Even here, though, it is important to note that "Big" is not quite the problem. Microsoft is many times larger than Facebook, for instance, but rarely finds itself the target of criticism. When Apple elicits fury, the issue is not its iPhone cash cow but rather its control over its (much smaller, as a share of the business) App Store as the only channel for getting software onto the phone. Amazon may soon pass Walmart as America's largest retailer, but its distinguishing feature in Big Tech debates is its role as the primary gateway for others that wish to sell online.

The underlying complaint in nearly every case relates to a firm's role as a platform—not merely a participant

in a market or public square but a provider of one. Such complaints are more pervasive in the digital world because scale tends to be a source of value rather than cost and so creates many more contexts for natural monopoly. Even if you *could* "build your own YouTube," why would you, and who would watch?

> ***As with economic questions of monopoly and competition, these political questions look different in the light of the digital age, but their contours have long perplexed policymakers.***

Fortunately, Americans have considerable experience dealing with market power and monopolies. Google is a different problem from Standard Oil, but it's the same *kind* of problem, and breaking it up could provide similar relief. Twitter may not be as useful as a railroad, but it likewise represents a natural monopoly and likewise would benefit from utility-style regulation. If Amazon or Apple is restraining trade, a law called the Sherman Act of 1890 already prohibits "restraint of trade" and "attempt to monopolize" and, according to the Supreme Court, represents a "comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade." Perhaps it needs updating. But questions like these are ones that economists and policymakers have spent a century answering.

A second challenge, not unrelated but distinct in important ways, concerns the Internet's effects on democratic processes and the application of free-speech principles to cyberspace. Here, again,

the underlying problem is one of platform control. The free-for-all of early online publishing, in which individuals published their own thoughts on their own websites, has given way to the world of posts and videos made within the confines of services that facilitate their widespread dissemination to followers. Those services are natural monopolies, so competition is scarce, and they are interested first and foremost in ad revenue, not in preserving a public square. One is still welcome to shout into the void from one's own website, but reaching an audience mostly depends upon playing by someone else's rules.

> ***The response should not be to resist progress and reject the benefits it can bring, but rather to impose guardrails that channel the progress constructively and to develop plans for replacing what it might unavoidably sweep away.***

Section 230 makes its appearance here. In the analog world, a newspaper gets to choose which op-eds to run, but it bears responsibility for defamation, incitement, and so forth in its pages. Under Section 230, Internet platforms can have it both ways. The firms controlling these platforms retain the power to censor and promote and obstruct as they see fit, but Section 230 relieves them of the obligation to do so. This indeed seems unfair, though a challenge for reformers is to specify which alternative would be preferable. Should Facebook be held liable for everything posted, prompting it to censor much *more* aggressively? Or should it wash its hands of any control over what happens on its pages? Neither option seems especially

appealing, or likely to address the underlying political issues raised by the current online media environment.

As with economic questions of monopoly and competition, these political questions look different in the light of the digital age, but their contours have long perplexed policymakers. Once upon a time, there were only three television networks, broadcasting on a government-licensed spectrum. Some of the Supreme Court's most famous cases concern application of free-speech rights to the media. Rules for managing speech in public places, as well as liability for reckless incitement, are also well established. These, too, may require updating, and will surely prove as imperfect in this era as in previous ones.

But while the political challenge touches on dearly held values and triggers some of our angriest fights, we should also be aware of its narrow scope. On the one hand, it implicates vital philosophical considerations about liberty and practical ones about allocation of power. On the other hand, it has little effect on the typical citizen in his daily life.

The third challenge, by contrast, concerns the ways that recent technological change has altered basic parameters of economic behavior and social interaction. This challenge has received the least political attention, lacking the mustachioed monopoly men of a good trust-busting or the culture-war stimuli of a censorship fight. But it may be the most important one and certainly is the one whose questions are most novel, requiring answers that will depart furthest from current policy frameworks.

The defining feature of the digital age, from this perspective, is its creation of a Super Market that operates with unprecedented efficiency and in new domains. Often, this is a good thing. But the

market mechanism has extended into areas where market logic does not necessarily hold, diminishing institutions, relationships, and goods of primarily nonmarket value—or, as the technocrats would say, market failures occur. The response should not be to resist progress and reject the benefits it can bring, but rather to impose guardrails that channel the progress constructively and to develop plans for replacing what it might unavoidably sweep away.

Lost in the Super Market

This collection focuses on three such areas: labor, attention, and personal information. By no means comprehensive, it aims to present key issues, both values-based and analytical, in three areas of particular concern. We have invited two experts to comment on how policymakers should think about each area, focusing on the extent to which the digital age presents a genuinely novel challenge and the extent to which existing policy frameworks can address it. While the discussions are not debates, per se—indeed, areas of agreement that emerge are often as interesting and important as areas of disagreement—the authors come to their topics from different perspectives, with one generally more concerned and one less so.

The first discussion, featuring the Charles Koch Institute's Neil Chilson and Modern Markets for All (MM4A)'s Wingham Rowan, considers how digital platforms enable frictionless exchange and extension of the market mechanism to new domains. This transformation has yielded enormous benefits, from lowered barriers to entry and transaction costs to increased efficiency and flexibility. But so much disintermediation and competition can also create new costs, especially when the market in question concerns not merely some product or service but, say, people themselves or their homes and neighborhoods. Who is winning or losing

as market-led innovation leads the labor market in a new direction? And would policymakers help or hurt matters by inserting themselves?

The second discussion, featuring *Reason* magazine's Peter Suderman and the University of Virginia's Matthew Crawford, considers how digital media commoditizes attention, which firms then monetize through advertising. Because their revenues depend not on satisfying users' needs effectively (for which users would pay them) but rather absorbing users' time spent on their products, platforms, and services, these firms make "engagement" (or, critics would say, "addiction") a design principle. Does the uniquely interactive and malleable nature of digital media demand attention from policymakers? Or is concern here the latest iteration in a proud tradition of paternalistic overreaction that once targeted novels and pinball machines?

The third discussion, featuring the Progressive Policy Institute's Alec Stapp and American Compass's Wells King, considers how digital data enable all-knowing algorithms to predict consumer behaviors and preferences and thus optimize products and services. Firms appear to value users' data more than users value their own privacy, creating the opportunity for an exchange that some find delightfully convenient and welfare-enhancing but that others see as manipulative and degrading. What kind of economic good *is* personal data? And under what conditions should data be used, bought and sold, or simply given away?

By disaggregating the Big Tech debate into its constituent parts, policymakers can give greater focus to the challenges of the Super Market, which require their attention now and will likely occupy much of it in the years to come. ■


Frictionless
Exchange
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FRICTIONLESS EXCHANGE: A PRIMER

Markets are complex institutions that rely on formal rules and informal norms as well as complementary institutions and infrastructure to facilitate mutually beneficial exchanges. Those exchanges themselves create value in various ways—not only the tangible trade of something that one person considers more valuable for something that the other prefers but also the relationships created and information generated in the course of transacting and the future commitments made.

The Information Era has revolutionized existing markets and extended the market mechanism to new domains by reducing or eliminating barriers to entry and transaction costs, allowing buyers and sellers to find each other, negotiate, and conclude their exchanges with once-unimaginable efficiency. The benefits are enormous: cheaper, better, and more tailored products; greater competition and faster innovation; new opportunities for entrepreneurs and greater convenience for consumers. But greasing the gears of commerce to whirl unimpeded, in the process sweeping aside the norms and institutions and relationships often taken for granted, has costs as well. Prosperity requires markets to deliver a society enough efficiency and disruption to produce growth but not so much as to risk disintegration.

This tension becomes most apparent when the market mechanism extends beyond the traditional realm of goods and services. The faster and easier the buying and selling of car parts the better, generally speaking. But as human nature and nonmarket concerns play a larger role, the picture becomes more complicated.

An online dating app, for instance, matches people who might otherwise never have found each other. As a result, though, they will tend to lack the shared connections or social circle to ensure accountability for their treatment of each other. Access to all manner of pornography at the click of a mouse eliminates all the steps in the procurement process whose obstacles and limits may well have had social value. Renting one's house as a hotel each weekend provides income—but, if everyone does it, there goes the neighborhood.

The most economically significant of these markets is the labor market, in which people's time and effort are the objects of exchange and prices are the wages that they rely upon to support their families. The Information Era has upended some facets of the labor market already and stands poised to reach into many others. How novel is this change? And to what extent should public policy respond?

Conditions of Employment

The Information Era has transformed the employment experience at almost every stage, beginning with the job-search process. Employers increasingly rely upon a centralized hub like Glassdoor, Indeed, or ZipRecruiter, which listed nearly 15 million U.S. job openings as of March 2021. (For reference, the Bureau of Labor Statistics reported a total of 8.1 million job openings and 6.0 million hires the same month.) These services automatically extract résumé data, score applications, and cull candidates for a human hiring manager to review, but the responsible algorithms are necessarily selective and dependent on keywords and heuristics that often filter out those with unconventional work histories or those without a degree.

Workplaces themselves are increasingly "fissured," with functions from building maintenance and food

service to advertising and accounting more likely to be provided by outside firms and even workers occupied in core functions like engineering or sales often treated as independent contractors rather than full-time employees. Google now employs nearly 20% more independent contractors than standard workers. Over the last decade, the number of temps, independent contractors, and freelancers grew by 6 million, half of which reflects a shift away from traditional employment. In a 2018 NPR/Marist poll, 20% of employed Americans described themselves as "contract workers"; while they were less likely to say that their income stays mostly the same from month to month or that they receive health or retirement benefits, they were more likely to say that their employer values the work they do a great deal. According to the Bureau of Labor Statistics, "contingent workers" (which it defines as independent contractors, on-call workers, temporary help agency workers, and workers provided by contract firms) would prefer "noncontingent" to "contingent" work by roughly two to one.

In some sectors, managers use sophisticated scheduling tools to optimize the time of traditional employees, varying work hours to meet demand from week to week and asking workers to be available even when not on the clock. More than one-third of low-wage food and retail workers work a variable schedule, facing anywhere from a 33% to a 50% swing in hours week to week. Others are constantly collecting data on the activity and output of each worker to use for process improvement or performance assessment. WorkSmart software, for instance, takes periodic screenshots and monitors keystrokes and app usage to track performance. More encouragingly for workers, IBM has introduced systems that help workers take better advantage of training programs and that notify those with relevant skills of opportunities for promotion in other departments.

Employers do not yet fire workers via automated system, but Amazon has taken steps in that direction and, in fact, defended itself against an allegation of unfair termination by explaining that "the production system generates all production related warnings and termination notices automatically with no input from supervisors."

The "Gig Economy"

Outside the traditional workplace, the Information Era has also supported the rapid growth of the "gig economy." Gig work is nothing new; arguably, it predates now-typical forms of employment and wage labor by millennia. Absent the Internet's emergence, no one would take much notice of the plumber, taxi driver, or lawyer who advertised his phone number in the yellow pages and awaited calls. What modern online platforms like Uber and TaskRabbit do is make the market for such labor much more market-like, commoditizing the service offered, allowing anyone to offer or purchase it with ease, and intensifying price competition along the way.

Despite their outsize role in discussions of economic trends, gig platforms remain a relatively small segment of the labor market. The Federal Reserve estimates that 16% of adults participated in "online activities" ranging from genuine gig work to selling things—a figure that, notably, rises with education level. Polling from Pew Research adds depth to these figures, indicating that selling things online is more common than finding work online, and, even in the latter category, the most common activity is taking surveys; only 2% of respondents reported work in "ride hailing" and 1% in "shopping/delivery." This aligns with data from a 2018 study of bank-account activity by JPMorgan Chase,

which found that 1.6% recorded online-platform activity in a given month (a fourfold increase over five years).

How much participants earn can be more difficult to discern. Estimates range widely, partly because of limited disclosures from platform operators and methodological differences in accounting for the costs of, say, operating a vehicle. TaskRabbit reports that its workers earn an average wage of $35 per hour. Recent studies of Uber and Lyft drivers have estimated earnings of $16–$21 per hour (before expenses) or $9 per hour (after expenses), at which point roughly half were earning more than minimum wage. Workers set their own rates and choose their own jobs on some platforms; on others, their rates are set and tasks are assigned by algorithm. In those cases, students of the system have concluded that the platforms actively manipulate their engagement, and some have sought ways to game it. Very few drivers report driving full-time, saying that they instead see the work as a way to supplement their income. Gig workers indicate that they value the flexibility offered by the platforms, and economic analysis has indicated that it provides them with significant value.

Market forces and technological advances are expanding the gig economy's frontiers: in one direction, toward the heart of the traditional labor market; and in another, toward transactions that can be performed entirely online. In 2019, Uber launched "Uber Works," which sought to partner with staffing agencies to match shift-workers with shifts, "for positions as diverse as being a prep cook, warehouse worker, a commercial cleaner or event staff." The platform now appears defunct, and the introductory blog post links only back to Uber's home page.

Amazon operates Mechanical Turk, a marketplace for the performance of discrete online tasks such as completing a survey or classifying a picture, which typically pay a dime or less and yield a median hourly wage below $2. But a wide range of jobs could potentially be recast in this manner, from the diagnostic work done by doctors to the testing and bug-fixing performed by software engineers. Managing such labor through online platforms also holds the prospect of further accelerating the trend in services toward a global labor market that has already occurred in the manufacturing sector, thanks to international trade.

Issues for Policymakers

The American regulatory framework for labor and employment was developed long before the Information Era and assumes that workers will fall into the clear categories of "employee" and "independent contractor." Employees are expected to have established, often long-term, relationships with employers who, in turn, have the incentive to invest in training and retention and are able to provide ancillary benefits like health insurance and retirement savings. That relationship can be governed by straightforward regulations concerning issues like wages, hours, safety, and organizing. Independent contractors, by contrast, operate as businesses that interact with those who hire them as equals in the market for a product or service.

Whether and how to update this framework has been a focus of policymakers in recent years. They must decide whether it remains appropriate to the evolving forms of relationship between workers and firms, if some of those relationships are suspect and require curtailment, or if some new category is needed. In California, for example, lawmakers passed a bill reclassifying gig workers on app-based platforms as employees. But

it has sparked backlash for threatening independent contractors' flexibility and for inducing mass layoffs.

Policymakers must also consider whether an increasingly efficient labor market, less reliant on durable human relationships, eliminates vital supports that once buttressed workers. If so, new or modified forms of regulation could be required to achieve what market friction once ensured. For instance, a minimum wage for ride-sharing drivers, like the one introduced in New York City, could help to stabilize wages. Likewise, if the Information Era weakens workers' ability to exert power in the market and find representation in the workplace, policymakers must decide whether to establish new mechanisms for countervailing that erosion. Organizations like the Freelancers Union have provided benefits and services to workers for decades, but existing labor law circumscribes the role that they can fill for worker representation and bargaining.

These same questions are relevant in other markets as well. Public policy supplements the natural constraints that market actors face. The disappearance of such constraints can be cause for celebration, but where policy in fact *relied* on their existence, policymakers face a new task. ■

A NEW KIND OF CHALLENGE

Remaking the Modern Market

WINGHAM ROWAN
Managing Director,
Modern Markets for All (MM4A)

"Those committed to self-reliance, reward for hard work, and the primacy of markets should be aghast at the new one-sided infrastructure that has emerged for this kind of flexible economic activity. The challenge before us is to understand the novelty of the digitally enabled gig economy and to formulate a proportionate policy response."

Freedom from Market Frictions

NEIL CHILSON
Senior Research Fellow,
Charles Koch Institute

"Rather than a novel challenge to be regulated anew, the digital disintermediation of work should be viewed as yet another welfare-generating innovation in a long tradition of such innovations."

NEW WORLD, OLD PROBLEM

Remaking the Modern Market

WINGHAM ROWAN

I met Kayla in 2018, when she was begging for gas money outside a 7-Eleven in Los Angeles. For $5, she explained why. An unemployed Ohioan, she had moved to L.A. with her six-year-old son after a cousin who managed a franchise restaurant offered her a job. But it was algorithmically scheduled and proved to be nothing more than ad-hoc hours at short notice whenever tables were likely to fill. Her extended family, who promised to look after her boy, were equally at the mercy of uncertain employment and struggled to fill child-care responsibilities.

By seeking to better herself with a move, Kayla had unwittingly joined the then-36% of Americans reliant on gig work. As well as the spasmodic waitressing, she had signed up on platforms to do deliveries and clean houses, but bookings were erratic and paid poorly. She had just enough gas money to get through another day traveling between hoped-for gigs and uncertain parenting.

There has been wide coverage of hardships faced by members of the "Precariat" like Kayla. When I met her, I was already two years into a philanthropically funded mission to help American policymakers, officials, and donors understand the phenomenon and potential solutions. Diverse attempts at regulation have not slowed the growth of gig work or done much to improve its working conditions. Like it or not, gig work is here to stay.

Those committed to self-reliance, reward for hard work, and the primacy of markets should be aghast at the new one-sided infrastructure that has emerged for this kind of flexible economic activity. The challenge before us is to understand the novelty of the digitally enabled gig economy and to formulate a proportionate policy response.

9-to-5 Decline

One of the main barriers to grappling with the gig economy is what I've termed the "Regularocracy" perspective. This says that 9-to-5 jobs should be everyone's default mode of income generation and relatively easy to expand if citizens just have the right skills. The view is understandable. Those who tend to hold it have typically progressed from full-time education to one regular-hours job after another, perhaps with a smattering of unemployment and the occasional side gig. Naturally, the idea of family breadwinners foraging for technology-mediated work every day can seem incomprehensible, viscerally disturbing, and peripheral—a problem to be stamped out.

Regularocratic thinking dominates today's labor market policy. Federal performance metrics railroad public agencies around the U.S. toward job-creation efforts, not supporting those in the reality of today's shifting-sands labor markets. But analysis in the *New York Times*, *Washington Post*, *Los Angeles Times*, and elsewhere shows that what government counts as a job, or as unemployment, is too often a gray zone in between—just endless turbulent bouts of work. The potential of public agencies to improve gig-work markets is explored only on the fringes.

But freelancers are projected to make up most of the American workforce by 2023. In the wake of COVID-19,

> *Naturally, the idea of family breadwinners foraging for technology-mediated work every day can seem incomprehensible, viscerally disturbing, and peripheral—a problem to be stamped out.*

a majority of Americans could find themselves working outside a steady job. Lower-skilled, 9-to-5 positions will take longer to open and to be filled—if ever.

Moreover, many American job seekers are unable to take on a 9-to-5 job. About 20% of adults have a medical condition, caregiving or parenting commitments, or studying patterns that change day to day. Not blessed with 40 hours available to work each week, these already hard-pressed citizens fall outside government or philanthropic job-creation efforts and instead seek fluid work on digitally mediated gig platforms.

Marking Markets

To better understand the challenges that gig workers face, we must focus on the mechanics of labor markets and the digital technologies that now mediate them. The quality of the markets that they use is pivotal. Someone in a 9-to-5 job will typically enter the labor market every few years, when it's time to find a new job. But gig workers can be in and out of the market several times a day in search of another assignment.

We should not treat "markets" as a broad concept but instead see each individual platform as an apparatus offering a menu of features. We must evaluate any

exchange—be it for warehouse workers, beauticians, bike rentals, or peer-to-peer lending—by the value that it gives each seller of the relevant resource. Broadly, there are five aspects to assess in any market:

- **Liquidity:** The best market imaginable will be used by 100% of the buyers of the resource being traded, each purchasing constantly.

- **Breadth:** Platforms for dog care—as one example—are well funded. But few people can only look after neighbors' pooches. Most of us have diverse skills and experience. Ideally, sellers will have a market that allows them to develop all their skills and assets—thereby maximizing earnings—in one coherent exchange.

- **Charges:** The lower the platform operator's take, the higher each seller's take-home pay.

- **Features:** The most useful market will share granular data on patterns of supply, demand, and pricing with sellers. It will enable nuanced matching with buyers, perhaps fostering ongoing relationships, make supportive interventions uniquely cost-effective, and give sellers full control over their pricing.

- **Governance:** Sellers in a fair market know that they are treated neutrally, operators are accountable, processes are transparent, and the platform itself is robust and unlikely to fail.

By these dimensions, today's digitally enabled gig markets are terrible.

Consumer services like Uber are just the tip of an iceberg. Platforms like Kronos that run monopsonistic labor markets for corporate employers are far more

influential. But Uber serves as the prime example, as its record-breaking valuations have ensured unusual scrutiny and reporting.

> ***We should not treat "markets" as a broad concept but instead see each individual platform as an apparatus offering a menu of features.***

By the time I met Kayla, Uber had been caught slashing worker pay. (Its rival Lyft had cut wages earlier.) In 2017 alone, Uber was fined for overstating drivers' earnings potential, investigated by the FBI for slanting its market toward undermining Lyft, and caught systematically misleading regulators. Uber typically retains a third of passengers' fees as commission. It is easy to underestimate the ruthlessness, sophistication, and resources of the companies that provide today's labor-market infrastructure.

Assessing any inadequacies in the markets accessible to fluid work-seekers requires us to have a benchmark. What would a healthy version of digitally mediated markets look like?

Consider Wall Street. When new technologies for information retrieval, dissecting data, payment transfers, graphic displays, and back-office processes emerged, financial institutions built themselves markets that come as close as possible to perfectly frictionless. A trader at Goldman Sachs or Citi uses software that seamlessly identifies and executes opportunities across multiple exchanges, forces down overheads, and

minimizes transaction risk while proactively combing for openings to suit current objectives.

> ***It is easy to underestimate the ruthlessness, sophistication, and resources of the companies that provide today's labor-market infrastructure.***

These modern markets transformed finance. It is hard to see how financial capitalism could have exploded if trades had continued to be conducted through phone calls, open outcry, or back-and-forth emails. And exponential growth in financial trading seems inconceivable if the exchanges used were as biased, controlling, limited in options, and income-extracting as those that many low-income work-seekers rely on every day.

Wall Street's hyper-markets didn't spontaneously emerge. Big banks used their clout to force multiple exchanges to become interoperable with proprietary trading software. That created huge breadth, and additional asset classes gave these systems depth. In-built comparison shopping between exchanges ensured ruthless pressure on transaction charges. That merited investment in functionality for sellers, including extraordinary feats of data processing. To ensure robustness, governments enabled state-owned clearinghouses, NRSROs, the National Market System, Fedwire, and other solid underpinning.

Kayla and her tens of millions of peers are too disparate and lack the clout to create the markets that they need.

Their life chances depend on fair, deep markets with tools enabling informed decisions, but they have little choice over the markets that they use. They have to go where the buyers are—usually, the platforms offering lower prices and instant service from interchangeable, tightly controlled, sellers.

Market Farces

The private sector alone can't solve the inequality of markets. Any company launching a new exchange for any resource must attract buyers away from existing markets. Once buyers come over, sellers must follow. This basic dynamic shapes the business model for new markets based on outspending competitors to raise buyer awareness. Typically, that's done by buying costly online advertising to show up alongside searches such as "Temporary Secretaries, Chicago." The spending required is viable only with a niche market for the new platform.

This intensity of competition for buyers drives Uber to subsidize its customers. Up to 60% of prices during its growth phase in any area can be discounted. On top of unrealistically low prices, buyers like an oversupplied market. The reason an Uber ride usually turns up so quickly is that there are more drivers prowling for bookings in any locality than there is work. Maintaining that mis-equilibrium requires opacity of data so that the supply side can't act in its best interests.

But fair opportunity for gig workers requires broad, balanced, informed, low-charge, and transparent markets. There have, of course, been attempts to launch these, but they haven't come close to the goliath platforms built on fierce buyer attraction.

My encounter with Kayla was timely in this regard. I was in California advising public agencies how they

might support people working outside traditional employment. I had run British government programs that created a market for anyone seeking gig work. Unlike the for-profit labor systems shaping Kayla's prospects, our sophisticated platform was built around protections, control, stability, and progression for work-seekers.

Government has enormous leverage to initiate the best markets now possible across the base of its economy. As one example, public agencies are—directly or indirectly—the biggest buyers of many types of labor.

> ***Fair opportunity for gig workers requires broad, balanced, informed, low-charge, and transparent markets.***

It may be time to adopt a "Modern Markets for All" policy in which public agencies launch better platforms for ad-hoc economic activity. This is not radical. Depression-era legislation established public labor exchanges, now rebadged "American Job Centers," as an alternative to commercial staffing agencies. Every U.S. state offers an all-sectors job-matching platform for those who feel underserved by for-profit job boards.

Government's market-moving power could underpin a version of the concession model routinely used to deliver official lotteries, complex civil engineering programs, and transportation services. Government could reward an operator who undertakes to fund, build, and run a new, empowering set of open markets by making them the favored channel for public spending. That should prime the pump for wider activity. Market operators

retain a small—but ongoing—cut of the economic activity generated but must commit to legally enforced controls ensuring a stable, fair, and transparent market.

Imagine a hugely sophisticated platform seamlessly trading across thousands of sectors in which regular citizens and local businesses sell. There would be no restraint on alternative platforms, and taxpayers would fund only the transparent concession award process.

If well executed, a policy like this could give individuals like Kayla a surge in opportunity, data, support, protections, and earnings. A small intervention like this, creating an additional choice of markets, could have a wider impact than regulation of aggressive platforms. Perhaps we should try giving markets a chance to address today's soaring inequality and the accompanying public anger before government-imposed redistribution becomes inevitable. ■

Freedom from Market Frictions

NEIL CHILSON

Independent work—labor performed for the end consumer without an intermediating employer—has been with us as long as there has been trade. It is as American as Mark Twain and the small farm, and it is a significant part of the American economy today. In 2019, an estimated 57 million Americans did some freelance work, bringing in nearly $1 trillion of income—almost 5% of gross domestic product and larger than the entire construction industry.

But in recent years, a new wave of independent work, often referred to as "gig work" and "sharing economy" work, has swept certain industries and created several new ones. Traditional freelancers tended to be professionals whose specialized skills could attract buyers with some modicum of marketing. Today, however, digital platforms make it easy for suppliers and buyers of services and products to find each other—so easy that almost anyone can supply or buy less specialized skills such as driving or assembling IKEA furniture.

Companies like Uber and Lyft have grown explosively by matching riders and drivers for short trips. Instacart has become a grocery lifeline for people quarantining during the COVID-19 pandemic. Airbnb matches people who wish to temporarily rent out rooms or houses that they own to potential guests. TaskRabbit connects people with small tasks to do with people who have the time and ability. Other platforms like Etsy, Shopify, and Substack make it easier for individuals to produce products or content, market it, and get paid for it—

no employer needed. Even traditional high-skilled freelancers are using digital platforms like Upwork to facilitate their work.

Not all these types of independent work substitute for a traditional employer-employee relationship. Some 46% of freelancers report that they wouldn't be able to work at all if they couldn't freelance. But to the extent that these independent jobs do replace traditional jobs, we might call it a form of "disintermediation"—the removal of a mediating institution, the employer. Or, perhaps more accurately, a change in the type of mediators, where digital platforms connect buyers and sellers of labor—but not as the employer of the sellers.

The new wave of digital-platform-supported independent work has eliminated many costs and market frictions and, in turn, reshaped business models to pass low costs on to buyers and flexibility on to worker themselves. Rather than a novel challenge to be regulated anew, the digital disintermediation of work should be viewed as yet another welfare-generating innovation in a long tradition of such innovations.

Getting More for Less

Some wonder whether this disintermediation has downsides. But to understand the potential downsides of digital gig platforms, we need first to understand how and why they have changed business practices in several industries.

Gig platforms succeed because they reduce what economists call "transaction costs." Transaction costs are like the drag on an airplane: they are the inevitable friction that results from trading with another party. Transaction costs abound in our everyday marketplaces. When you buy a box of pencils at a retail store, for example, the cost of producing the pencils isn't the only

price you pay. There's the time you spend traveling to the store, searching the store, waiting in line to check out, paying with cash, or figuring out how to swipe your card. The store also incurs costs when selling you those pencils, such as rent, maintenance, and labor. Likewise, the transaction between the retail store and the pencil manufacturer entails costs, such as transportation and negotiation. All these transaction costs are tangential to the actual production cost of manufacturing pencils, but they are necessary to facilitate the transaction of selling pencils to you. Indeed, from the point of view of the end consumer, all costs are transaction costs.

> ***What makes the sharing economy "sort of new" is that it is a result of entrepreneurs offering new means to reduce transaction costs without controlling who will offer what products or services as a result.***

Companies compete vigorously to reduce costs, including transaction costs, and thereby improve efficiency. In fact, the Nobel-prize-winning economist Ronald Coase claimed that companies exist primarily as a mechanism to reduce transaction costs. Companies are islands of planning and organization in a sea of marketplace exchanges, specializing in certain types of labor, bundling transactions, and streamlining processes to minimize the time and money required to meet customers' needs. Companies compete in markets, constantly searching out new and more efficient ways to trade. No market is ever perfected or finished because there are always transaction costs to be lowered.

Historically, then, companies have long competed to reduce transaction costs but usually as bundled with a particular product or service. What makes the sharing economy "sort of new," according to economist Michael Munger in his book *Tomorrow 3.0*, is that it is a result of entrepreneurs offering new means to reduce transaction costs without controlling who will offer what products or services as a result.

Technologies that reduce transaction costs necessarily affect the shape and behavior of economic actors in the marketplace. If the costs of a particular type of transaction are sufficiently reduced, the company may outsource that type of transaction to an external provider. Reduced transaction costs can also mean that entirely new trades are possible, such as renting a stranger's spare room. Indeed, such platforms can expand the market for the services that they provide: in NYC, for example, the Uber fleet is three times larger than the number of yellow cabs.

> ***Digital disintermediation is, in this context, just another term for technology-driven reductions in transaction costs and the corresponding shift in economic arrangements. It's a dynamic as old as human exchange itself.***

In short, lower transaction costs mean an increased number of arms-length market transactions. You don't hire a driver anymore; you hail Uber rides. This also holds from the driver's perspective: rather than compete for an expensive taxi medallion or rent one

from a NYC cab company, the driver simply turns on the Lyft app. Munger describes three components of transaction costs that digital platforms, especially sharing economy platforms, address: triangulation (locating products or services and agreeing on terms); transfer (exchanging payment for the good or service); and trust (the assurance that the product or service will be as described). For example, the Uber app helps you locate a driver and identifies the price, makes it easy to pay, and offers a rating system that helps ensure quality service.

Or consider a newer example: the rising Substack platform, which describes itself as a "subscription publishing platform" where readers can subscribe directly to the writers they want to read. Substack helps readers find writers they want to read and helps writers find readers who are interested in their work (triangulation). Substack makes it very easy to charge readers and easy for readers to pay (transfer). And the Substack model provides a trustworthy model for writers owning and controlling the relationship with their fans and supporters (trust). In short, Substack's lowering of transaction costs disintermediates writers from magazines or newspapers, enabling writers to produce work and get paid without having to satisfy anyone but the readers.

Digital disintermediation is, in this context, just another term for technology-driven reductions in transaction costs and the corresponding shift in economic arrangements. It's a dynamic as old as human exchange itself. Currency, for example, was a technological innovation that replaced bartering and thus drastically reduced transaction costs across virtually all exchanges. Digital platforms are only the most recent technology to revolutionize what transactions are possible and thus how business is done—right down to the relationship between employer and employee.

Balancing the Tech Trade-Offs

Like all good things, the flexibility that results from reduced transaction costs comes with trade-offs. The most obvious downsides fall on the incumbents with higher transaction costs and who therefore lose out to more efficient competitors. For example, cab companies aggregate the supply of cars and drivers that made it possible to ride in a stranger's car, but they have been at least partially displaced by ride-sharing apps that further reduce transaction costs. Unsurprisingly, displaced competitors often lead lobbying efforts against transaction-cost-reducing platforms for independent workers.

But the popular narrative of disintermediation centers on the independent workers who use digital platforms. Gig workers, in this story, are cut off from the social structures and legal protections available to traditional employees. Some of these concerns are paternalistic judgments of the choices made by the real people who work in the gig economy. The very benefits that some would argue that gig workers should have—predictability of income, regular hours, certain benefits—are in direct conflict with the main feature of gig work: its flexibility.

There are real concerns, of course, such as the high cost of health insurance for independent workers. But, like health insurance, many of the most tangible "lost" benefits of gig work are artifacts of decades of public policy to promote traditional employment. For example, the U.S. tax code has for decades subsidized employee-offered health insurance—that's why employers offer health insurance but don't offer, for example, auto insurance. Leveling the tax treatment of market-purchased and employee-provided health insurance would help address the lack of health insurance for gig workers.

Full-time employment has other, less tangible, benefits, including friendships, opportunities for mentorship, leadership, and personal development, as well as a sense of loyalty that may be difficult to replicate in arms-length, one-off transactions. But these benefits are not guaranteed features of employment; bad coworkers and malicious bosses also exist. Nor are these intangibles completely unavailable to gig workers. I've ridden many an Uber with a driver who was chatting away with other drivers. And on platforms like Substack, writers can directly and profitably build trust with their readers, even if their voices might not be welcome in more traditional media outlets.

The critics who seek to foist legal strictures on the gig economy for the sake of security or fairness or solidarity ignore a basic truth: there is no "correct" boundary between what takes place in an arms-length transaction and what is bundled into more traditional employment. As sellers of all kinds compete to meet buyers' needs, traditional firms, gig workers, and consumers experiment with different business arrangements to see what can best facilitate the deals to be made. Gig work's flexibility may come with trade-offs—but what it offers, many gig workers prefer.

Empowering Platforms

Digital platforms have circumvented certain employer-employee relationships and thus disintermediated conventional labor-market participants. But in doing so, these platforms have also reduced common frictions between traditional employment and other social institutions, like family, entrepreneurship, and community. These benefits can be substantial—after all, life isn't just about work.

Gig work offers flexibility that benefits workers with families and appeals especially to primary caregivers—often women. Indeed, women have cited the flexibility

of gig work as its main attraction. According to one study, "96 percent of women indicate that the primary benefit of engaging in platform economy work is the flexible working hours." In fact, "70 percent of those platform working women are the primary caregivers in their homes." Women also leave traditional work for gig work because they need the flexibility to care for family members. Some 60% of women who recently left full-time work for independent work did so "because they needed flexibility; needed more time to care for a child, parent, or other relative; or both." Because gig work allows flexible hours, it enables women to better schedule work activities around home activities and has thereby increased female labor-force participation.

> ***The critics who seek to foist legal strictures on the gig economy for the sake of security or fairness or solidarity ignore a basic truth: there is no "correct" boundary between what takes place in an arms-length transaction and what is bundled into more traditional employment.***

Gig work also supports entrepreneurship and business formation. The arrival of gig work in a city increases new business registrations by 4%–6% across several other empirical measures. The gig economy facilitates this growth in entrepreneurship by providing supplemental income and offering the "insurance" of easy-to-start work in the case of failure. The entrepreneur himself need not already be a gig worker. The ready availability of income-generating gigs makes it less risky to start a company. In short, "the gig economy provides the safety net that makes experimentation 'safe' to explore."

Gig work can also strengthen communities. Sharing economy companies provide unique benefits to individuals and companies in low-income and marginalized communities. Residents of majority-minority communities report that ride-hailing companies, like Uber and Lyft, better serve their neighborhoods than traditional taxi companies that historically neglected them. Researchers have demonstrated that "peer-to-peer rental marketplaces have a disproportionately positive effect on lower-income consumers across almost every measure," raising living standards most for those who are the worst off. The gig economy's positive effect on entrepreneurship is particularly strong in cities with poor socioeconomic conditions.

It is likely that disintermediation in employment has not yet reached its apogee. Today's gig platforms themselves have significant transaction costs that future technologies and business models may further reduce. Some imagine a day when transaction costs to borrow and loan property are low enough that, instead of buying many material goods, people will "rent" such goods, sharing the costs, raising living standards, and reducing unnecessary consumption. Even if that day is far off, the choices that current and future gig platforms provide empower people today to strengthen their families and communities and to exercise their own entrepreneurial spirit.

Changes to employment do highlight the inadequacies of ossified regulatory and tax structures developed in a previous pre-digital era. We should reform these structures but avoid imposing them on the gig economy. Instead, we should explore policy reforms that respect the variety of ways that people choose to earn a living and foster marketplace competition between all different models of work, from independent to employed. ■


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THE ATTENTION ECONOMY: A PRIMER

Television, not the Internet, first prompted the observation that consumers of free media are the product, not the customer. Television networks were in the business of developing content that would attract "eyeballs," which they could then sell to advertisers. Scholars warned of the medium's purported addictiveness and its tendency to devolve into infotainment.

In the Information Era, though, every element of the equation has become amplified. Media platforms know a tremendous amount about each user and can tailor their offerings accordingly. Media themselves have become more immersive and seek to maximize user "engagement." Users carry devices with them that ensure access to the media—and the media's access to them—at all times.

These digital media now dominate the landscape, supplanting traditional forms and increasing total consumption. From 2011 to 2020, the average American's consumption of traditional media (e.g., TV, radio, and print) fell from 450 to about 300 minutes each day, while digital media usage rose from 200 to almost 500 minutes a day. More than a quarter of adults report being online "almost constantly."

The platforms are designed to retain as well as entertain. With greater data collection, content providers better understand users' interests and habits and target content accordingly. Most use "A/B testing" to constantly refine their product design and function in search of "stickiness"—keeping users engaged longer and bringing them back sooner. Features such as "infinite scroll" and "autoplay" aim to eliminate breaks in the

experience when a user might turn away; YouTube's personalized recommendations account for more than 70% of the time spent watching.

Platforms also work constantly to reengage users via "push" notifications. People are significantly more likely to engage with an app if they receive regular notifications and are 50% more likely to make an in-app purchase if prompted. Perhaps this explains why the average smartphone user checks his smartphone 96 times and receives 46 mobile notifications each day.

Or he may just be a satisfied consumer. Far from lamenting popular online platforms, most users would pay $25–$50 per year for them, including nearly three-quarters for YouTube and Twitter and two-thirds for Facebook.

This tension is at the heart of competing claims about the nature of modern media: Is there anything wrong with building products that users can't seem to stop using? Nir Eyal's *Hooked: How to Build Habit-Forming Products* provides a Rorschach test. Is a "habit-forming product" a good thing? "Forming habits is imperative for the survival of many products," writes Eyal. "As infinite distractions compete for [users'] attention, companies are learning to master novel tactics to stay relevant in users' minds." That seems sensible enough. But it translates into outcomes such as nearly one-third of Americans aged 18–44 reporting that they feel anxious if they have not checked Facebook in the previous two hours.

Critics argue that companies are hooking users, building products that cause biological changes in the brain and compel continued use. For instance, social media triggers the same regions of the brain as cocaine, and researchers regularly classify frequent social media

use as an addiction. Internet use has also been linked to changes in cognition such as memory processing and to reduced gray matter in the brain—an effect similar to that observed from substance abuse or gambling. The sheer volume of exposure may increase distractibility and reduce the ability to prioritize tasks. In just the last decade, the average attention span has fallen from 13 to eight seconds—less than that of a goldfish.

A second concern is psychological and pertains mainly to younger users. Psychologist Jean Twenge claims that rising rates of teenage depression and suicide can be traced to screen time. Social media increases feelings of loneliness among teenagers, who naturally feel left out when seeing any of their friends' online posts. Twenge's research has found that teenagers who spend several hours a day online have a significantly higher risk of suicide. The accuracy of self-reported screen-time data is disputed, however. Other research suggests that moderate screen time has no effect on adolescent mental health.

A third concern is sociological: customized content and recommendations deliver engagement by giving users what they already know and like. From one perspective, these techniques improve convenience and quality, giving consumers exactly what they want. From another, as Yuval Levin warned nearly two decades ago, Americans become "swaddled in our own preferences," consuming personalized content that limits "our experience of new and different ways of thinking." Social media news feeds push news items that reinforce users' ideological priors and create political echo chambers that drive polarization.

People obviously enjoy being delivered information that reinforces their own views and opinions that comport with their own, and they appear eager to seek

out content that comforts, rather than confronts, them. But a society may suffer from intense polarization if its markets deliver enormous profits to whoever can provide the most comprehensive cocooning service. The use of existing personal data and past online behavior to predict preferences and guide recommendations also runs the risk of frustrating individual growth and change.

Issues for Policymakers

In response to the public outcry over media usage, digital media and device creators have added features that allow users to constrain themselves. For instance, Apple has introduced app-specific time limits that remind users how much time they spend on their phone. YouTube has introduced a feature that advises users after an hour to stop watching videos and go to bed. Platforms also allow users to deactivate their notifications, but only one in three users bothers to deactivate notifications as a result—suggesting that, from one perspective, such "opt-out" mechanisms are inadequate; but from another perspective, perhaps users like the status quo just fine.

An initial question for policymakers is whether they have any role to play at all. If consumers understand what they're getting and what they're giving, the market may be performing as intended. Much depends on whether the right analog to scrolling endlessly through a social media feed or watching hours of AI-recommended YouTube videos is using hard drugs, smoking cigarettes, drinking alcohol, gambling in a casino, riding a motorcycle, buying a scratch card, or watching TV. Or is it sui generis—an entirely different kind of question that previous generations of policymakers simply never encountered?

Even within existing categories, robust debates rage over appropriate regulatory mechanisms, and societal standards are in the process of shifting. Drug-legalization efforts are under way, and states continue to expand gambling opportunities, while cigarettes and now "vaping" face increasing scrutiny and pressure. Regulation could, in theory, focus on specific engagement techniques (e.g., "like" buttons), specific content types (e.g., pornography), or specific groups of users (e.g., children). As with cigarettes and alcohol, public policy could rely on taxes and fees to limit consumption. As with bars, it could assign liability for over-serving.

Facebook's recent announcement of a plan to build an "Instagram for Kids" will provide an interesting test case. Already, 44 state attorneys general have asked the company to abandon its plans, but thus far it has committed only to keeping such a platform ad-free. How the market and the public react remains to be seen. ■

A NEW KIND OF CHALLENGE

Reclaiming Self-Rule in the Digital Dystopia

MATTHEW B. CRAWFORD
Senior Fellow, University of Virginia's Institute for Advanced Studies in Culture

"Because the economy of industrialized attention-harvesting reaches so deep into the human person, the usual categories of economics may not be adequate to parse what is going on—and what our response should be."

Digital Is No Different

PETER SUDERMAN
Features Editor,
Reason *magazine*

"Arguments that online media have some uniquely powerful hold over people's minds and time is a convenient fiction premised on false notions of individual helplessness and static digital marketplaces."

NEW WORLD, OLD PROBLEM

Reclaiming Self-Rule in the Digital Dystopia

MATTHEW B. CRAWFORD

The slogan of the Revolutionary War, "Don't tread on me," expresses the psychic core of republicanism. In 1776, this spirited insistence on self-rule was directed against King George, who lived in England. But against what should that insistence be directed today?

The platform firms such as Google, Facebook, and Twitter constitute a kind of imperial power that orders everyday life in far-reaching ways. Many feel that they have to pass through the portals that these firms have established in order to conduct the business of life and to participate in the common life of the nation. Sitting atop the bottlenecks of communication that are a natural consequence of "network effects," their competitive advantage over rivals is positional, much like a classic infrastructure monopoly (think Ma Bell, or a toll road). They are positioned to collect rents from many forms of social intercourse, including some that we did not previously understand, under the rubric of "the economy" (such as dating). We pay these rents in the currency of our attention.

The state is something we need to be vigilant against; this is the libertarian intuition. But what is "the state," in the year 2021? The thing that governs us: Where is it located? Depending on how you answer this question, libertarian prickliness may need to be redirected, based on an updated understanding of where the threats to liberty lie.

Shoshana Zuboff, in her landmark book *The Age of Surveillance Capitalism*, shows how the attention economy is intimately connected to the data market. The behavioral data that you generate throughout the day—not just your Internet browsing but your movements through the physical world, your shifting web of contacts, the content of your social media posts and uploaded photos, the emotional register of your voice—are used to create predictions by the platform firms. These predictions are then sold on a behavioral futures market (often in real-time auctions, even as your behavior is taking place), to be purchased by any party that has an interest in knowing your established proclivities and current receptivities on various fronts.

The thing that governs us: Where is it located? Depending on how you answer this question, libertarian prickliness may need to be redirected, based on an updated understanding of where the threats to liberty lie.

The point of having such predictions and fine-grained characterizations is to then intervene and nudge your behavior into profitable channels. These interventions may remain beneath the threshold of your awareness (for example, in the selection and arrangement of banner ads on the webpage you are looking at), but even in such cases, the basic lever by which your behavior is modified is through the capture of your attention.

That's what "content" is for. Algorithms decide, based on your past history, what content should be delivered to you to maximize "time on device." If you have ever frittered away an hour on YouTube, with its bottomless

rabbit hole of recommendations, you know how this works. Our minds are treated as a resource to be harvested at scale, by mechanized means.

Attention is finite and, arguably, the most valuable resource that one has. It determines the contents of our minds, the disposition of our time, and the basic character of our experience. The question of what to attend to is, ultimately, the question of what to value. Because the economy of industrialized attention-harvesting reaches so deep into the human person, the usual categories of economics may not be adequate to parse what is going on—and what our response should be.

The Burden of Self-Regulation

What are we to make of the fact that so many people who use Twitter, Facebook, Instagram, and YouTube also complain bitterly about their own habit of spending too much time on these things? Nobody is forcing anyone to do anything, yet people report that they feel somehow unfree. If we are divided against ourselves, it seems we need to revisit the basic anthropology that underlies the free-market faith.

The view of human beings that prevailed in economics and public policy in the twentieth century held that we are rational beings who gather all the information pertinent to our situation, calculate the best means to given ends, and then go about optimizing our goal-oriented behavior accordingly. But this "rational optimizer" view leaves much out of account, especially the power of habit. (See, above all, William James's discussion in *The Principles of Psychology*.) Unlike animals who are adapted by evolution to a fixed ecological niche, with behavioral scripts that are rigidly encoded in instinct, humans are flexibly adaptable, and the paradox is that this makes us susceptible to a peculiarly human form of

unfreedom. Precisely because our brains are so plastic and formable, the grooves that we wear into them through repeated behavior may become deep enough that they function like walls.

> ***The absence of regulation by the state increases our burden of self-regulation, and this comes with a cost that is "off the books" of economistic thinking.***

In principle, we are free to form whatever habits we choose. But this moment of choice usually occurred long ago and passed without our noticing it. You just wake up one day and find that the patterns of your life are perhaps not ones that you would affirm as choice-worthy in a moment of reflection. Can one understand the compulsive behavior of an addict simply as "preference satisfaction"? Classical economics recognizes external coercion but has no ground on which to distinguish freedom from internal compulsion.

Another fact about human beings, which can probably also be attributed to evolution, is that we are layered. We still have that old lizard brain with its animal appetites, and we have higher capacities that are cultivated only with effort. These layers correspond to a rank order of pleasures. The pleasures of mathematics, for example, or playing the guitar, only become available to one with sustained effort. The learning process is initially unpleasant. To attend to anything in a sustained way requires actively excluding all the other things that grab at our attention. It requires a capacity for self-regulation—what psychologists call the "executive function" of the brain. Self-regulation is like a muscle.

The more you use it, the stronger it becomes. But you can't use it continuously all day long. Like attention, it is a finite resource. In light of these facts, it would seem significant that, for example, pornography is available 24 hours a day on a device that one carries around in one's pocket. The absence of regulation by the state increases our burden of self-regulation, and this comes with a cost that is "off the books" of economistic thinking.

To subsume such distinctions as that between the pleasures of porn and of mathematics, or between practicing the guitar and watching cat videos, under the generic category of "preference satisfying behavior" is to erase the kind of distinctions that matter to human beings. A determination not to be "paternalistic" about such things expresses an admirable modesty, rooted in good old-fashioned liberal agnosticism about the human good. But if we are too dogmatic about this, the effect is to arrest criticism of powerful commercial entities that operate in terrain that is not yet defended by law, in ways that have already consequentially altered the human landscape.

Automating People

Big Tech firms speak the dialect of autonomy and market choice with expert fluency in their public-facing pronouncements, even while building systems predicated on a very different, more realistic, picture of human agency in which habit is king.

The innovators of Silicon Valley were faced with competitive economic pressure to increase their share of users' finite attention, and this translated into a behavioral engineering challenge with its own internal logic, pursued without consideration of how it might impinge on the common good. They created something that, like a virus, has taken on a life of its own.

Consider the discovery that when users contribute their own content on a platform, this increases their "engagement." Facebook famously conducted large-scale experiments on its users and found that it could induce "emotional contagion." If one curates users' news feeds to show items likely to enrage them, this captures their attention. They get angry and spend more time on the platform. They become more active disseminators of Facebook links to others and more active generators of further content. Users organize themselves into self-radicalizing rage-tribes; our politics has gotten channeled into divisions that are, to a significant extent, artifacts of the engagement algorithms by which social media platforms have expanded their footprint in American life.

This has been compared to "gain of function" research in virology, in which the natural features of a virus are manipulated to make it more virulent, in a laboratory setting. Social media is initially appealing to us because of our natural sociability (which evolved in face-to-face societies). But, like an engineered virus that escapes the lab, it has taken on a life of its own.

The engagement algorithms of social media achieve "operant conditioning," a powerful means of behavior modification first identified by B. F. Skinner. This is an explicitly avowed business model, the foundation of what is called "persuasive design" in Silicon Valley. Many tricks of the trade have been developed in concert with the machine gambling industry (slot machines and video poker terminals). They share an ambition to engineer addiction—and indeed, some of the key players have overlapping CVs. The plasticity of our neural pathways is such that repetition combined with random reinforcement can be used to induce compulsions that are no less real, in physiological and behavioral terms, than the compulsions of substance abuse. The

reinforcement here consists of "likes" and retweets and positive comments, each of which gives your brain a little micro-shot of dopamine. What is genuinely novel is the potency and scale that behaviorist conditioning may achieve through machine learning. At some point, the libertarian risks becoming an antiquarian stuck in 1776, or 1980, if he hasn't updated his assessment of the field of forces.

> ***Social media is initially appealing to us because of our natural sociability (which evolved in face-to-face societies). But, like an engineered virus that escapes the lab, it has taken on a life of its own.***

So perhaps the political calculus must change. As a prudential matter, I may decide that I want the de jure, elected government to fight the de facto, unelected government on my behalf, by regulating the attention economy. I have zero faith in the wise benevolence of those who staff the permanent bureaucracy. But we now have enough accumulated experience to say *also* that the business model driving Silicon Valley's efforts to monetize every bit of private headspace has had some serious ill effects.

Resisting Consolidation

It would be pleasing to conclude my argument here. But in the last several months, I have found that my own view needs to be updated as well. A newly radicalized state, with a newly militarized determination to suppress dissent, gives one a newfound appreciation

for good old-fashioned libertarian vigilance against "the state" as usually understood. In a corresponding inversion, Big Tech now sometimes appears as a rival center of power that could help to keep thought free, if it so chooses.

Social media tribalizes thought, but it also liberates thought from the monopoly power of the propaganda state that operates through the legacy corporate media. The panicked response of the Democratic establishment to this fracturing has been to try to gain control of social media, summoning Jack Dorsey and Mark Zuckerberg for ritual humiliations in Congress. I have no inside knowledge, but it is reasonable to assume that the bargain offered is continued regulatory forbearance on antitrust and Section 230 immunities in exchange for cracking down on dissent. This presents a genuinely disturbing prospect.

Precisely because of its unprecedented power, including power to sway elections, the Valley is in a position to resist the state's demand that the platform firms suppress facts and argument. Such resistance will require some spine and concern for the common good.

The opposed categories "private sector" and "government" would appear to have little utility for understanding the present; we may need to put down our Milton Friedman and pick up our George Orwell. ■

Digital Is No Different

PETER SUDERMAN

For as long as there have been adolescent entertainments, there have been panicked adults worried about how young people are spending their time and how creators are manipulating innocents.

In the early 1800s, critics worried that young women were enthralled by novels. Some of the cultural anxiety had political connotations. "Novel reading for women was associated with inflaming of sexual passions; with liberal, radical ideas; with uppityness; with the attempt to overturn the status quo," English professor and Jane Austen scholar Barbara M. Benedict told the *New York Times* in 2014.

But much of the concern was simply about time and attention. Novels were written specifically to hook readers, with each plot twist and psychological insight subtly suggesting that the reader continue to turn the pages—and to buy more novels. As Stanford literature professor Margaret Cohen told the *Times*, the sense at the time was that "novel reading was so absorptive, and that was seen as one of its dangers, in that it would divorce you from everyday life." To read a novel, in this view, was to be narcotized by powerful forces beyond your control.

This conception of manipulation and attention, which applies to any product designed to induce consumers to want more of it, was similarly at the heart of early efforts to regulate arcades—not the Pac-Man and Galaga-populated videodromes that dotted the shopping malls

of the 1980s but earlier arcades that featured analog entertainments, such as pinball machines.

In the 1940s, pinball machines were viewed as engines of social ruination. The arcades of the era were popular with immigrants and young people and were sometimes home to gambling. Thus, they became targets for politicians. In 1942, New York mayor Fiorello La Guardia sent armed police to seize such machines from all over the city, taking in more than 2,000 on the first day alone. Pinball was made illegal in the city of New York and did not become legal again until 1976.

Bans on pinball machines were common in American cities as diverse as White Plains, New York, and Oakland, California, during the middle of the twentieth century. In 1955, Kokomo, Indiana, banned pinball, with the city's mayor insisting that such games "tend against peace and good order, encourage vice and immorality and constitute a nuisance." Among the concerns was that men sometimes gambled on pinball games, with a local paper noting that "wives whose husbands have gambled away their entire pay checks on pinballs have complained against the devices."

The idea was plainly paternalistic: In the face of such a powerfully seductive psychological force, pinball players couldn't help themselves; government had to be employed to control the base urges that these nefarious new devices sparked. Ordinary people simply couldn't be relied on to make reasonable choices.

The Paternalist Strikes Back

The Internet is new but no different. It is both a technology and a pastime, a time-waster and a time-saver, a toy and a tool, a platform for the delivery of every imaginable type of information—from books

to movies to satellite temperature data to government tax-revenue estimates to the essay that you are reading right now—and perhaps for your paper towels as well. It is intended to be used and to be useful.

> ***The complaints have hardly changed since the days when novels and pinball were the subjects of scorn. At the heart of all these concerns, in every era, are moralistic judgments about how people spend their time.***

The coders and user-interface technicians and machine-learning whizzes who engineer the Internet's interactive features have worked to make them appealing, even satisfying, to use. Because it is both enjoyable and useful—and indeed, has become even more enjoyable and useful over time—people have tended to spend more and more time online.

But tech companies have become victims of their own success. People—many of them adolescents and young adults—are once again passing the time by engaging in behavior that some authority figures find worrying, vaguely disreputable, and socially disconnecting. Social media companies like Facebook, Twitter, YouTube, and TikTok, for instance, have come under fire for their left-leaning politics and for luring in the vulnerable—particularly adolescents.

Cultural scolds and public authorities have decided that the Internet poses a cultural-political problem to be solved through force. Senator Josh Hawley, perhaps Congress's most outspoken critic of large technology

companies, has proposed bills that would ban features such as "infinite scroll," in which social media interfaces continuously load new content without the user needing to refresh the screen, and "streaks," a feature on Snapchat that rewards users with colorful icons for consecutive days of communicating with friends. Hawley explicitly pitched these restrictions as efforts to fight social media "addiction."

To some extent, this just represents a contemporary tendency to treat disfavored human habits and behavior as medical conditions. Yet there is little broad evidence to suggest that heavy Internet use represents a genuine malady. For example, one meta-review of 61 studies of Internet addiction from 1996 to 2006 mostly found that such studies were flawed, relying on "inconsistent criteria to define Internet addicts." Studies of Internet addiction, the authors reported, "examined data using primarily exploratory rather than confirmatory data analysis techniques to investigate the degree of association rather than causal relationships among variables."

> ***This much is true: The Internet* feels *different. That's partly because of its immediacy but also because of its ubiquity.***

But the lack of evidence has not stopped Hawley, who has also introduced a bill to ban "loot boxes" in video games. This feature lets players pay for a collection of randomized rewards; some rewards are merely cosmetic, and others are power-ups that make online games easier to win. A press release from Hawley's office announcing the bill denounced "manipulative video game practices

aimed at children," referred derisively to the "addiction economy," and included a quote from an outside group condemning such features as "dangerous gambling-like attributes" that are "psychologically manipulative and may cause unsophisticated users such as children to become addicted." (In the years since Hawley's 2019 bill, some major video-game companies have pared back loot box–like features, especially those that offer game-play-enhancing rewards—simply because they were unpopular with players.)

Manipulation. Gambling. Addiction. The fragility of young minds.

The complaints have hardly changed since the days when novels and pinball were the subjects of scorn. At the heart of all these concerns, in every era, are moralistic judgments about how people spend their time.

Update or Upgrade?

This much is true: The Internet *feels* different. That's partly because of its immediacy but also because of its ubiquity. Pinball machines were quite pervasive in 1940s New York City, and novels in the Regency era were practically omnipresent in educated households. But no one used a pinball machine to buy groceries. Some devoted readers likely fell asleep with novels in their hands, but no one woke up in the morning to a printed page full of flashing message alerts.

For many, the Internet has become an all-purpose, always-on mediator for their jobs, their thoughts, their communications with friends and family, and all manner of commercial exchange. For those who only semi-ironically identify as "Extremely Online," it is the locus of personal identity. It can feel omnipresent and

inescapable, especially following a pandemic year when so many aspects of life migrated further online.

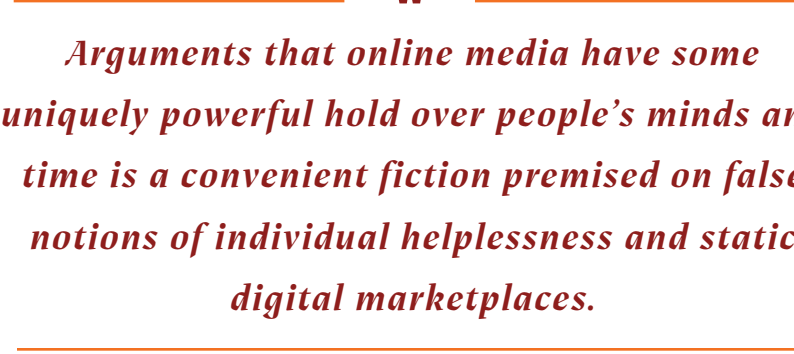
Pinball might have been manipulative, but the analog world put limits on its reach. Today, those manipulations are managed by complex, ever-changing, and often mysterious algorithms that attempt to lure us in and are sometimes viewed as holding users in thrall. The amount of time consumed by the Internet dwarfs that of pinball. The Internet can indeed seem different because of the scale alone.

But that sense is largely an illusion. Yes, the Internet is more omnipresent than pinball or adolescent serial fiction or Reagan-era video arcades. But the Internet is not a monolith. It is a distributed system of digital connection to any number of destinations, from Facebook and Twitter to Netflix and Spotify to lovingly preserved libraries of old-timey fiction and prehistoric folk songs.

While some of those destinations are, of course, large and well trafficked, none of them is compulsory or even all that essential. It is possible to log off Twitter (I do it most days), to quit Facebook (I paused my account years ago and do not regret it), and to avoid signing up for TikTok or Snapchat (I have never had an account with either) or whatever the next trendy social media destination happens to be. Indeed, some of these companies will be gone in a few years, remembered only as fads of the past. Snapchat has already faded. Remember MySpace? Or Friendster?

At the end of 2020, Facebook saw its second consecutive quarter of decline among daily active users in the U.S. and Canada—two of its oldest and most advanced markets. Even amid a pandemic that radically increased screen time and online socializing—perhaps the most favorable possible external environment for growing

a social network—Facebook's supposedly vast arsenal of algorithms and behavioral nudges didn't have an unbreakable grip on people's time or attention. Millions of people found other things to do. They chose to log off.



Arguments that online media have some uniquely powerful hold over people's minds and time is a convenient fiction premised on false notions of individual helplessness and static digital marketplaces.

Arguments that online media have some uniquely powerful hold over people's minds and time is a convenient fiction premised on false notions of individual helplessness and static digital marketplaces. Indeed, few of today's online media giants have the reach of television, which, in the early 1950s, daily consumed more than four and a half hours, on average, in every household in America—a figure that had risen to nearly nine hours by 2010.

The Internet may be ubiquitous and more accessible. It may offer more choice and more interactivity. But these qualities are, for the most part, improvements. To the extent that they capture attention, they are different only in degree, not in kind.

Capturing Your Attention

All media products and services attempt, in some form or another, to commodify our attention, to coax readers and viewers and listeners into turning another page, watching another episode, queuing up another song,

clicking to another article. That is the business of media, online and off. There is a reason that journalists, even in the analog era, obsessed over ledes and headlines and structural attributes; they were proven methods for systematically engaging and maintaining the attention of large numbers of readers. A media institution, or an individual writer, that did not seek to commodify attention would be one that sought irrelevance.

> ***The attention economy is really just "the economy."***

I have written this essay in hopes of inducing readers to stay with me to the end. Am I attempting to capture and commodify your attention? Of course I am—as is every other producer of content and entertainment, digital or analog. It is not nefarious when an individual does it; the larger scale and reach of online media do not magically transform media into a unique civilizational threat.

Jane Austen and other novelists of her era were not cynical purveyors of addiction; they were writers—content creators, media entrepreneurs—seeking to engage the public's attention. Some 200 years later, we don't worry that Austen and her contemporaries ruined young minds by monopolizing their time. We recognize that they contributed to the advance of human thought and culture.

That online media companies, like so many media and entertainment businesses before them, seek to monetize our precious hours is no surprise. It represents no new or uniquely worrying frontier in the commodification of

attention—because, in some sense, attention is all there is. The attention economy is really just "the economy." Time is all we have in life, so of course it is valuable—to ourselves and to others. That this remains true in the Internet age is no reason to panic. ■

All-Knowing Algorithms

ALL-KNOWING ALGORITHMS: A PRIMER

Businesses have always sought to collect data on their customers and operations to improve their products and increase their profits. In 1956, International Business Machines (IBM) introduced the first magnetic hard disk, weighing more than a ton and able to store 5 megabytes of data; the global market exceeded 1,000 units.

Today, Google and Facebook store nearly 5,000 megabytes of data on the typical 20-year-old Internet user. Data points range from search history and online shopping cart to face, voice, location, career, hobbies, relationships, finances, and so on. Many online services are designed specifically to facilitate the gathering of such data—Google, for instance, extracts information from every calendar entry logged by a user to learn more about that user. These data then allow for careful targeting of services and advertisements. Facebook, for instance, allows advertisers to reach users of a particular education level engaged in long-distance relationships who listen to the radio.

By allowing companies to market their products and services to specific customers, the collection and analysis of personal data provide the economic basis for much of the digital economy. Individual targeting doubles the effectiveness of online advertising, and advertisers have flocked to the format. Total digital marketing spending increased from $26 billion in 2010 to $140 billion in 2020, while print spending fell from $122 billion to $14 billion. Google and Facebook alone generated $230 billion in advertising sales in 2020, accounting for 80% and 98% of their respective revenue. As a result, these services and many others are effectively free to users.

User data also allow for the tailoring of products and experiences, including the coverage appearing in the news feeds where a majority of Americans get their news and the recommendations made for further reading and viewing. Advertisements and special offers are eerily relevant—the retail chain Target infamously used shopping data to identify women who were pregnant and send coupons for prenatal supplies. Dating sites helpfully identify potential life partners.

On the one hand, consumers generally seem appreciative of the quality and convenience that companies use their data to provide, as well as the free services made possible by the targeting of ads. They consent to all manner of agreements and invite their apps to use their location, and many fail to exercise the control that they have. On the other hand, they do not necessarily understand what they are agreeing to or how their data will be used. Controversies emerge from time to time when companies employ practices that consumers consider invasive or manipulative.

One concern arises over how companies use data. For instance, customer profiles permit the delivery of more effective customer service, as well as prioritization among customers. Colleges track whether prospective students read informational emails and factor those data into a student's "demonstrated interest," which, in turn, influences admissions decisions. Life-insurance companies set personalized insurance rates by analyzing their customers' social media posts. In 2014, the Department of Transportation approved a proposal to allow airlines and travel agents to collect customer data, such as a customer's age and ZIP code, to offer "more agile pricing," a euphemism for charging some customers more than others. The travel agency Orbitz found that MacBook users have a higher price tolerance and charged them more for hotel bookings.

Another concern is that collected data quickly become intermingled. In the $200 billion data brokerage industry, firms assemble data from disparate sources to create individual profiles available for purchase. When a customer makes an online purchase, his name, email, physical address, and phone number are often sold to data brokers. Cell-phone companies sell customer location data, allowing third parties to track a user's location at any moment. Many apps sell location data to advertisers. A 2014 Federal Trade Commission (FTC) report found that one data broker amassed 3,000 data points for nearly every U.S. consumer.

Data brokers face few constraints on how they gather, combine, or distribute their information. For instance, the U.S. government and foreign governments purchase data on American consumers from data brokers. Even the medical privacy law, HIPAA, only limits the sale of medical data that include a person's name and home address. Companies can buy and sell data on purchases of medicines, hospital records, and insurance claims, as well as on records that include a patient's ZIP code, age, and gender; and they can provide sufficient specificity for companies to match those records to individuals.

Issues for Policymakers

While over 80% of both Republicans and Democrats believe that data privacy should be a federal priority, action taken thus far has occurred mostly at the state level. Under a 2008 law, Illinois restricts the collection of biometric data, including scans of people's faces, voices, or typing rhythm. Public as well as private entities must inform individuals before collecting biometric data, and companies may not profit from it. The California Consumer Privacy Act (CCPA) creates several consumer rights, including the right to know that personal data are being sold and to whom; the

right to opt out of such sale; the right to demand that a business delete personal information; and a prohibition on discrimination for exercising those rights.

The first question for policymakers concerns the requirements for user consent. When must users be notified before their data are collected, used, or transmitted? What form must this notification take, and what consent is required? How do users grant or withdraw their consent? And can withdrawal of consent include a requirement that businesses destroy data already gathered? One proposal that has attracted significant attention is to grant individuals an explicit property right in their data, requiring companies to pay for acquisition and use. The contours of such a framework would still depend on answers to these questions.

Independent of decisions made by individuals, policymakers must also consider what (if any) constraints to impose on business practices. Regardless of whether a customer consents to the collection and use of data, policymakers might identify ways in which those data should not be combined, analyzed, or retained. Businesses might also be free to use data however they wish but face constraints in the practices that they can use such data to employ—for instance, in modifying pricing or denying service.

Finally, policymakers will have to decide how government itself can use data. China has garnered enormous attention for its "social credit score" system, which uses data gathered from monitoring countless human interactions and behaviors to award and withdraw state-controlled privileges. While Americans are obviously not contemplating such a system today, recent policy debates have highlighted the difficult decisions that await. For instance, calls in the aftermath

of the Capitol riot on January 6 to prohibit participants from flying on planes raised the specter of using data gathered from personal devices to limit free movement absent any due process. The concept of a "vaccine passport" has been controversial partly because it would condition access to public spaces on willingness to engage in a behavior deemed socially desirable.

These cases seem obvious to some—of course we should punish people whose devices show that they were inside the Capitol on January 6; of course we should exclude people from large crowds who might transmit COVID-19—but in an era of technocratic "nudging," the temptation will always exist to go further. Why *not* have surveillance cameras on every corner to deter crime, send healthy-recipe texts to people who consistently overspend on fatty foods, or reduce unemployment benefits for people who play video games all day? More aggressive use of data will almost always appear to deliver more efficient outcomes, which markets and the state will both pursue. To the extent that other values matter, they will have to be asserted through the political process. ■

A NEW KIND OF CHALLENGE

SELLING THE DIGITAL SOUL

WELLS KING
Research Director, American Compass

"The threat to privacy in the digital age is not so much in being surveilled per se as in having more of one's life shaped by behavioral nudges and advanced algorithms in increasingly unintelligible and unaccountable ways."

MAKING DATA WORK FOR US

ALEC STAPP
Director of Technology Policy, Progressive Policy Institute

"Thinking of privacy as an instrumental right—as something that helps us get more of what we want in terms of other values—makes some of the problems around data markets more tractable. We could see that it is in everyone's interest to make data more alienable—easier to buy and sell—which would, in turn, make our data more valuable."

NEW WORLD, OLD PROBLEM

Selling the Digital Soul

WELLS KING

To be online is to be watched at all times. Companies can track web-browsing behavior down to the most granular details—not only clicks and search queries but cursor movements and keystrokes. Smartphones send streams of precise location data without the owner's awareness. The widespread adoption of "smart" devices that gather data—speakers, watches, even clothes—has only increased the range of activities monitored. Digital technologies so thoroughly mediate our lives that even the most commonplace personal activities like "pizza-and-movie night" generate loads of valuable personal information.

Nearly four-fifths of Americans are concerned about the amount of data that companies collect, and the frequency of major data breaches regularly renews attention to the security (or lack thereof) of sensitive personal information stored digitally. Privacy advocates have sought to enshrine a human right to digital privacy, even calling for a Bill of Data Rights and a new federal agency tasked with protecting user data. The United States has rules that govern the collection and distribution of sensitive personal information like financial and medical records. But what about the data collected on other digital activities—from messaging, to shopping, to browsing? Should the quotidian ever be considered confidential?

The initial challenge is that digital privacy defies straightforward regulation, or even definition. The norms, laws, and expectations that govern privacy in the real world translate poorly to digital contexts,

where the distinction between "public" and "private" often escapes users. In theory, mass data collection and digital surveillance violate the individual's "informational privacy," his right to control information about himself. But in practice, one's willingness to share personal information or be monitored depends on context and subjective judgments. A user is content to have GPS applications report his location if this helps to provide real-time directions and traffic updates, for example. But he often becomes irritated if those same applications report his location when not in use, or when other applications with no reasonable need for location data collect it nonetheless.

> ***Permitting surveillance is, in effect, the cover charge for much of the digital world, and thus for modern society.***

These challenges, as well as potential solutions, are typically framed as matters of consent. If users are aware of data-collection practices and can choose which to permit or prevent, they retain control over their personal information. Informed consent thus protects the individual's subjective sense of privacy across contexts.

In practice, such consent is virtually impossible. Privacy policies, which establish the justifications for data collection, are either incomprehensible or inordinately long—often both. It would take the typical user an estimated 25 days each year to read the policy of every website he visited. The policies themselves are written by lawyers *for* lawyers, to protect companies rather than inform users. Opting out entails a cumbersome process that may not protect personal information, anyway,

and requires users to avoid major platforms in favor of alternatives—no easy task. Permitting surveillance is, in effect, the cover charge for much of the digital world, and thus for modern society.

An Indecent Proposal

Suppose that such consent *were* plausible: that users could understand the terms of privacy policies, opt out of data collection at will, and turn to viable alternatives as needed. It might not make any difference.

Users claim to value their digital privacy more than they actually do. Eight in ten Americans believe that the risks of private data collection outweigh the rewards. Yet fewer than one in four users avoid certain Internet activities out of privacy concerns, and less than half update their basic privacy settings. Most gladly relinquish their data when presented with even the slightest incentives. Less than 2% of travelers, for instance, opted out of a Delta facial recognition program that saved less than two seconds at boarding. This so-called privacy paradox suggests that Americans understand their privacy to be tradeable, not inalienable. Their pragmatism may override their precaution as they evaluate trade-offs and negotiate terms of trade.

Building a digital-privacy regime on informed consent is thus certain to further facilitate the commoditization of data. Users would sacrifice their privacy and relinquish their personal data at the right price—perhaps as little as 25 cents. Eric Posner and Glen Weyl have proposed such a "data markets" approach to governance, arguing that tech companies ought to compensate users for their data-generating activities as they would workers for their labor. If users create value for companies, they can claim some of that value for themselves. (Indeed, under the status quo, users are already effectively "compensated" in-kind

via free access to a service, application, or platform.) Stipulating that consumers could understand their data options and manage their privacy preferences carefully, a straightforward, market-oriented quid pro quo may seem like a fair model for governing users' informational privacy. It preserves individual choice and consent across contexts and returns a dividend to users in proportion to the value that companies might derive.

We should not be so quick to dismiss our intuition that privacy has inherent value beyond the seemingly trivial dollar figures for which people seem happy to abandon it. The data-industrial complex is a true wonder of the modern era. Information is bought and sold on a vast secondary marketplace, brokered by companies that most users have never heard of. Buyers aim to assemble data from numerous sources—mobile phones, social media, search engines, "smart" devices, even vacuums—to create as comprehensive a user portrait as possible: age, race, gender, minute-by-minute location, spending habits, financial stability, tastes and preferences, medical history, relationships, heart rate, and more.

To make use of these data, Silicon Valley firms have amassed expertise not only in data science and machine learning but also in animal science and neurobiology. Breakthroughs in artificial intelligence enable complex analyses of user behavior that predict individual decisions. Facebook, for example, classifies its users on more than 52,000 attributes and has developed a method to determine their emotional states. Its "prediction engine" processes trillions of data points to anticipate changes in consumption patterns.

These data and behavioral insights feed algorithms that affect lives in ways mundane and momentous. They determine the most relevant search results and binge-watching recommendations, as well as whether

to renew a health insurance plan and whether to release someone on bail. Facebook can identify personal relationships where there is no immediately traceable digital connection on its own platform—a social worker and a new client, a sperm donor and his biological child, and opposing legal counsels. Companies track purchases linked to billboard advertisements that consumers have driven past and visits to a physical store linked to viewing a digital ad. Hedge funds buy consumers' location data to analyze foot traffic in stores and anticipate market trends. The Weather Company, owned by IBM, can predict based on location data whether a user is likely to have an "overactive bladder" on a given day and thus be a target for drink advertisements.

An individual's personal data may sell for mere pennies on the market. But that trivial amount doesn't reflect the degree of power that, once pieced together and studied rigorously, those data afford the companies that control the interfaces and infrastructure of digital life.

An individual's personal data may sell for mere pennies on the market. But that trivial amount doesn't reflect the degree of power that, once pieced together and studied rigorously, those data afford the companies that control the interfaces and infrastructure of digital life. The threat to privacy in the digital age is not so much in being surveilled per se as in having more of one's life shaped by behavioral nudges and advanced algorithms in increasingly unintelligible and unaccountable ways.

Preserving the Private Sphere

The sophistication of corporate surveillance has produced a yawning gap between what firms know about a user and what he knows they know, or even what he knows about himself—creating what psychologist Shoshana Zuboff calls "epistemic inequality." The cumulative effect of data collection, aggregation, and analysis has been to transform the digital—and, increasingly, the analog—world into a massive behavioral-science laboratory. Users offering up their data are not akin to workers selling their labor but rather to test subjects selling themselves into digital experiments reviewed by no ethics board.

> ***Scrolling through a news feed of posts curated to provide the greatest possible dopamine surge can indeed be a pleasant experience. But a society in which this becomes the norm can nevertheless impoverish us all.***

In some cases, such arrangements may simply exist outside the bounds of what a free society believes that its citizens can consent to—as is the case with indentured servitude. That determination may seem to have a paternalistic component, where policymakers assert that individuals lack the sophistication to make choices in their own interest. It may also seem to have a protective component, where power imbalances otherwise threaten to invite exploitation.

But in the privacy context, the issue is perhaps best understood as one of national preservation. Surrender-

ing to corporate surveillance may very well be in an individual's best interests, at least as measured in terms of hedonic utility. Scrolling through a news feed of posts curated to provide the greatest possible dopamine surge can indeed be a pleasant experience. But a society in which this becomes the norm can nevertheless impoverish us all.

For example, a feedback loop in which people are presented only with those options that they are most likely to enjoy based on their previous choices becomes self-reinforcing, reducing the opportunity to try—and ultimately, the interest in trying—new things or consider new ideas. Curated media and social networks that show people the things that they are most likely to enjoy and the people most like themselves can fracture our common life and culture into hyper-segmented experiences. A world in which movie studios craft scripts based on predictive analysis of what elements will most please particular segments is a world of many formulaic Netflix originals and very little art.

Past choices have always shaped future choices, but perhaps never has this cause-and-effect dynamic been so thoroughly controlled yet so inexplicable. The algorithms that crunch users' data and determine their digital environments defy not only understanding by typical users—but even by their creators. Such powerful and ubiquitous "black boxes" threaten to erode people's sense of autonomy in, control over, and responsibility for their own lives. Why try to make decisions that are already being made for you? Why bother if you have no control? No one doubts that humans will gladly trade freedom for convenience. That doesn't mean that they should.

This destruction of the private sphere implicates our public life. Hyper-segmented media can create

epistemological bubbles and increase polarization. News feeds can be primed to provoke emotional responses that reverberate in socially destabilizing ways. Personalized algorithms may indulge private passions but jeopardize the public capacity to deliberate and organize.

Many concerns from privacy advocates can seem melodramatic, and, to be sure, the effects are gradual and subjective. But against these concerns, the question must be asked: What is gained? Obviously, real-time location data are of great value in a navigation application. But does the weather application need to know your location at all times, lest you have to type in a city name? Does the pizza-delivery application? How much better is a world in which a product once added to a shopping cart on one site appears blaring in every ad on every other site for the following week?

The American people must make a political choice about the level of personal privacy that they want to preserve. They should ask policymakers to navigate between the extreme of some absolute human right to privacy and a purely consent-based framework. The former would be out of step with the pragmatic attitudes and revealed preferences of most people, while the latter would leave few checks on the exposure and abuse of unlimited personal information.

A new approach must acknowledge the limits of consent in data privacy and preserve a private sphere for all citizens. It should set appropriate limits not only on who may collect and access personal data but also on the appropriate purposes for which they may be used. What the digital age needs isn't a new inalienable right to privacy but a digital environment that is intelligible and accountable, improving livelihoods as well as safeguarding our common life. ■

Making Data Work for Us

ALEC STAPP

The art of selling has always been in knowing the customer. When markets were smaller and more local, sellers knew buyers by name, knew their kids, knew their hobbies, knew when they'd just bought a new car. The multinational corporation is still trying to catch up, collecting and studying the scraps of data that users make available online.

For privacy advocates, such data collection poses endless dangers, the specific contours of which are never made quite clear. Are "targeted ads" manipulative? Maybe. But what would it even mean for an ad to be untargeted? Should it be illegal for truck companies to spend most of their television advertising dollars on NFL games because they know that football fans are more likely to buy their products? Football fans, at least, appear unbothered.

In the industry, placing ads where particular audiences are most likely to see them is called "contextual" advertising and can be distinguished from "behavioral" advertising that is targeted on the basis of individual characteristics—say, demographic data or web-browsing history. Here, consumers don't seem to know what they want. In surveys, they say that they value their privacy; but in experiments (and in real-world settings), they trade it away for small tangible benefits. In one study, the vast majority of participants were willing to reveal their monthly income to a video rental store in exchange for a one-euro discount on a DVD. (Without the discount, about half still shared this private information in exchange for no benefit.) Another

study found that most subjects would happily sell their personal information for just 25 cents, and almost all of them waived their right to shield their information.

As venture capitalist Benedict Evans has observed, "We don't want irrelevant ads or ads that are too relevant. We don't want anyone to know what we bought but we want the advertiser to know we already bought that. And we refuse (mostly) to pay but we don't really want ads anyway. Our feelings about online ads are pretty unresolved."

Unfortunately, there is no free lunch here. Targeting ads with behavioral data increases revenue for platforms and publishers alike (both Google and the *New York Times* sell targeted advertising)—doubling or tripling it, according to a literature review by marketing professor Garrett Johnson. Without targeting, advertising would be less efficient, and companies that rely on advertising revenue would be forced to raise prices for consumers and reduce investment in their platforms.

Some activists argue that the trade-off is worthwhile and that subscription-based business models would be preferable to advertising-based ones. Although that may be their opinion, no evidence exists that any critical mass of users agree. Nor is it clear how such a transition could be brought about, even if policymakers attempted to mandate it.

Markets in Data

One leading idea for giving users greater control of their data and obstructing expropriation and manipulation by companies is to grant them formal "ownership" and allow them to sell it. Before we can talk about the pros and cons of data markets—and how policy might need to change to make them better—we need to know

where they are and *what* they are. Where is the market for data? Can you go to a website or download an app that has "data" for sale? And once you find the market, what's for sale there?

Immediately, a number of problems become apparent. First, while people often say that "data is the new oil," it's a terrible analogy and leads policymakers to view data within a flawed commodity-like framework. Data is much closer to a public good—one person using it does not preclude someone else from using it, too ("non-rival"); and stopping someone from using it is hard ("non-excludable"). Data can be used over and over without being diminished (it's just 1s and 0s!), and once it's shared publicly, it's difficult to prevent it from being shared with others in unauthorized ways. If anything, then, we are likely *underinvesting* in data collection. Building the necessary infrastructure to collect and process data for profitable use is very expensive, and companies know that they won't be able to realize all the gains from doing so.

> ***Without targeting, advertising would be less efficient, and companies that rely on advertising revenue would be forced to raise prices for consumers and reduce investment in their platforms.***

Second, people seeking to maintain their own privacy must rely on others not to share information about them. When someone else shares personal data that includes them or can be linked to them (say, a group

picture or an email), then they have lost some measure of privacy. Remember that the Facebook–Cambridge Analytica scandal was a scandal because Facebook users opted to share data *about their Facebook friends* with the third-party app (not just data about themselves). As MIT professor Daron Acemoglu and his colleagues show in a recent paper, when others share data about someone, that person has less reason to protect his own privacy. He becomes more willing to share additional personal data, too—because at the margin, it doesn't make much difference.

> ***Such a "data theory of value" is as much a fallacy as the labor theory of value. Data is but one input in addition to highly skilled labor (machine-learning engineers aren't cheap!) and data centers.***

Third, and perhaps most significantly, data has little value on the open market. When most people see the word "data" next to the word "market," they often think of "Big Tech." If anyone is participating in—and profiting enormously from—data markets, surely it must be Facebook and Google (and, to a lesser extent, Microsoft, Amazon, and Apple).

But as these companies constantly point out, they don't sell personal data; they sell targeted advertising. If a small business wants to show an ad to moms between the ages of 30 and 40, with a household income above $100,000, living in the suburbs of Cincinnati, the tech giants are more than happy to help. But the data about those individuals never leaves the companies' hands. The data—along with platforms that users want to

spend time on—is their competitive advantage, and they have no intention of sharing it.

Yes, some companies known as "data brokers" sell personal data directly, and some tech companies are *buyers* of that data, but few consumers have even heard of these brokers—and they are small potatoes compared with the major platforms. So when people talk about "data markets," what they really mean is "platforms that offer you services (often at no monetary cost) in exchange for your time and personal data."

In fact, notwithstanding the oft-cited claim that a family of four's personal data could be worth $20,000 in annual income in the near future, that personal data is nearly worthless today. The *Financial Times* provides the analysis:

- "General information about a person, such as their age, gender and location is worth a mere $0.0005 per person, or $0.50 per 1,000 people."
- "A person who is shopping for a car, a financial product or a vacation is more valuable to companies eager to pitch those goods. Auto buyers, for instance, are worth about $0.0021 a pop, or $2.11 per 1,000 people."
- "Knowing that a woman is expecting a baby and is in her second trimester of pregnancy, for instance, sends the price tag for that information about her to $0.11."
- "For $0.26 per person, buyers can access lists of people with specific health conditions or taking certain prescriptions."
- "[T]he sum total for most individuals often is less than a dollar."

So why are Facebook and Google worth hundreds of billions of dollars if personal data, a key input to their business models, is relatively worthless? It's because, as Stratechery's Ben Thompson explains, these companies are actually "data factories":

> Facebook quite clearly isn't an industrial site (although it operates multiple data centers with lots of buildings and machinery), but it most certainly processes data from its raw form to something uniquely valuable both to Facebook's products (and by extension its users and content suppliers) and also advertisers (and again, all of this analysis applies to Google as well). ... Data comes in from anywhere, and value—also in the form of data—flows out, transformed by the data factory.

Because they are factories, the entire value of the output cannot be ascribed to users' personal data. Such a "data theory of value" is as much a fallacy as the labor theory of value. Data is but one input in addition to highly skilled labor (machine-learning engineers aren't cheap!) and data centers. This is why "data dividend" schemes don't add up. Facebook's average revenue per user in the U.S. and Canada in 2020 was $163.86; giving the user 20% of that total would amount to only a few dollars per month.

Privacy as an Instrumental Right

One way to sort through this mess is to start thinking of privacy as an instrumental right—one "meant to achieve certain social goals in fairness, safety, and autonomy," as law professor Jane Bambauer put it last year, "not an end in itself." This commonsense approach lacks the rhetorical flair of our modern-day Patrick Henrys who insist: "Give me privacy, or give me death." But it better comports with most people's values and with a realistic assessment of the trade-offs that they face.

Thinking of privacy as an instrumental right—as something that helps us get more of what we want in terms of other values—makes some of the problems around data markets more tractable. We could see that it is in everyone's interest to make data *more* alienable—easier to buy and sell—which would, in turn, make our data more valuable. Policymakers should look for ways to subsidize the creation of publicly available data sets, facilitate data exchange, and implement strong privacy protections that limit third-party sharing of personal information.

Unfortunately, recent privacy laws such as the General Data Protection Regulation (GDPR) in the EU are going in the wrong direction, framing privacy as an inalienable right that must never be traded away, even if doing so would make individuals better off. An unconventional coalition of liberals and conservatives skeptical of technological progress and worried about the power of Big Tech seem eager to follow. Doing so would stifle innovation, reduce investment, and harm consumers, while delivering no tangible benefit to anyone. ■

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