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Silicon Valley

1 Until recently, it was easy to define our most widely known corporations.

Any third-grader could describe their essence. Exxon sells gas; McDonald's makes hamburgers; Walmart is a place to buy stuff. This is no longer so. Today's ascendant monopolies aspire to encompass all of existence. Google derives from googol, a number (1 followed by 100 zeros) that mathematicians use as shorthand for



unimaginably large quantities. Larry Page and Sergey Brin founded Google with the mission of organizing all knowledge, but that proved too narrow. They now aim to build driverless cars, manufacture phones and conquer death. Amazon, which once called itself "the everything store," now produces television shows, owns Whole Foods and powers the cloud. Along with Facebook, Microsoft and Apple, these companies are in a race to become our "personal assistant."

When it comes to the most central tenet of individualism — free will — the tech companies have a different way. They hope to automate the choices, both large and small, we make as we float through the day. It's their algorithms that suggest the news we read, the goods we buy, the paths we travel, the friends we invite into our circles.

It's hard not to marvel at these companies and their inventions, which often make life infinitely easier. But we've spent too long marveling. The time has arrived to consider the consequences of these monopolies, to reassert our role in determining the human path.

Over the generations, we've been through revolutions like this before. Many years ago, we delighted in the wonders of TV dinners and the other newfangled foods that suddenly filled our kitchens: slices of cheese encased in plastic, oozing pizzas that emerged from a crust of ice. Time-consuming tasks – shopping for ingredients and tediously preparing a recipe — were suddenly and miraculously consigned to history.

The revolution in cuisine wasn't just enthralling. It was transformational. Processed foods were feats of engineering, all right —

but they were engineered to make us fat. It took vast quantities of meat and corn to fabricate these dishes, and a spike in demand remade American agriculture at a terrible environmental cost. A whole new system of industrial farming emerged, with penny-conscious conglomerates cramming chickens into feces-covered pens and stuffing them full of antibiotics. By the time we came to understand the consequences of our revised patterns of consumption, the damage had been done to our waistlines, longevity, souls and planet.

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Something like the midcentury food revolution is now reordering the production and consumption of knowledge. Our intellectual habits are being scrambled by the dominant firms. As with the food giants, the big tech companies have given rise to a new science that aims to construct products that pander to their consumers. Unlike the market research and television ratings of the past, the tech companies have a bottomless collection of data, acquired as they track our travels across the Web, storing every shard about our habits in the hope that they may prove useful. They have compiled an intimate portrait of the psyche of each user — a portrait that they hope to exploit to seduce us into a compulsive spree of binge clicking and watching.

In the realm of knowledge, monopoly and conformism are inseparable perils. The danger is that these firms will inadvertently use their dominance to squash diversity of opinion and taste. Concentration is followed by homogenization. As news media outlets have come to depend heavily on Facebook and Google for traffic — and therefore revenue — they have rushed to produce articles that will flourish on those platforms. This leads to a duplication of the news like never before, with scores of sites across the Internet piling onto the same daily outrage.

As individuals, we have accepted the omnipresence of the big tech companies as a fact of life. We've enjoyed their free products and next-day delivery with only a nagging sense that we may be surrendering something important. Such blitheness can no longer be sustained. Privacy won't survive the present trajectory of technology — and with the sense of being perpetually watched, humans will behave more cautiously. Our ideas about the competitive marketplace are at risk. With a decreasing prospect of toppling the giants, entrepreneurs won't bother to risk starting new firms, a primary source of jobs and innovation. And the proliferation of falsehoods and conspiracies through social media, the dissipation of our common basis for fact, is creating conditions ripe for authoritarianism. Over time, the long merger of man and machine has worked out pretty well for man. But we're drifting into a new era, when that merger threatens the individual. We're drifting toward monopoly, conformism, their machines. Perhaps it's time we steer our course.

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