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# Tocqueville on Technology

*Benjamin Storey*

French political philosopher Alexis de Tocqueville (1805–1859) is revered for his almost prophetic powers of foresight concerning countless aspects of modern society. Technology isn't one of them. As Eduardo Nolla points out in his definitive new edition of Tocqueville's masterwork *Democracy in America*, "there is perhaps no point on which modern critics of Tocqueville are in more agreement than on his ignorance of... matters of industry, of the process of urbanization, and the little attention that he gave to steamboats, canals, railroads and other technical progress." Historian Garry Wills mocks Tocqueville for "[riding] around on steamboats without noticing how crucially they were changing American life," and argues that Tocqueville's relative silence in his great work about "American capitalism, manufactures, banking, [and] technology" shows that he simply didn't "get" America. Even James W. Ceaser, whose *Liberal Democracy and Political Science* (1990) argues for the continuing relevance of a Tocquevillian understanding of politics, concedes that "Tocqueville seems to have underestimated the possibilities of modern technology."

If true, the charge that Tocqueville didn't understand technology would be devastating for his reputation as a thinker whose work stands the test of time. Indeed, why would we expect a Norman aristocrat—a man who lived in a castle and died long before James Watson or Bill Gates were even born—to offer anything of more than antiquarian interest to our biotech, digital age? Just as Tocqueville said that "a new political science" was necessary for understanding the then emergent world of democracy, a political science newer than Tocqueville's would seem to be necessary for understanding the unprecedented techno-political challenges we now confront, from state-sponsored digital surveillance to the ethics of genetic engineering.

But is the charge true? Does Tocqueville overlook the significance of technology? On this point, Tocqueville's critics usually argue that he failed to make the great technological transformation of his time, the Industrial Revolution, a focal point of *Democracy in America*, thus showing that he was blind to the importance of such change. In some of his minor works, however, the Industrial Revolution was plainly Tocqueville's

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central preoccupation. His *Memoir on Pauperism* and *Journeys to England and Ireland* abound with penetrating observations of the economic, social, moral, and political life of the rising industrial cities Tocqueville visited in England in the 1830s—after he made his famous journey to the United States, but during the drafting of the second volume of *Democracy in America*. They also show that he considered the Industrial Revolution not as an isolated phenomenon, but as a paradigmatic example of the paradoxes of technological change in a modern, democratic society.

In these lesser-known works, Tocqueville argues that industrialization is an inevitable reality in democratic times, that it is intrinsically connected to the free political institutions and the distinctive moral and intellectual virtues of democratic peoples, and that it decisively contributes to the unprecedented levels of material prosperity enjoyed in the modern West. He also dwells on the Industrial Revolution's darker side: its environmental consequences, the threat it poses to the equality of conditions, its narrowing effects on the minds of workers and the hearts of their employers, and its contributions to the growth of centralized political and economic power and the concomitant attenuation of human liberty.

All of this is perfectly consistent with the broader analysis of modern, liberal democracy Tocqueville presents in *Democracy in America*. Indeed, as will become apparent, that work in fact contains a more substantial commentary on the Industrial Revolution than Tocqueville's critics allow. Why, then, is Tocqueville's teaching on this point so consistently dismissed or overlooked?

The primary reason Tocqueville's teaching on technology has been neglected is the unexpected character of that teaching. Tocqueville does not treat the Industrial Revolution as many of his critics believe it should be treated: as an independent material cause, a change in the economic system of production, which has consequences in the moral and political world. Rather, Tocqueville treats the Industrial Revolution as (to borrow a phrase from Leon Kass) a manifestation of "a way of thinking and believing and feeling, a way of standing in and toward the world," which is the true essence of technology. (To be clear, Tocqueville does not use the *word* technology in this way, nor indeed at all, but, as will be shown below, he extensively discusses the attitude toward the world it signifies.) For Tocqueville, technology is at the heart of how we understand ourselves; it is democratic America's poetic self-image. His analysis of technology is in the first place focused on why we see ourselves and our world in the way that we do, which has as much to do with the longings of our souls as it does with the particular tools and techniques by means of which we

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transform the material world. It is only in the light of an understanding of the psychic appeal of technology that we can understand why modern, democratic peoples embrace its manifold transformations of our lives as wholeheartedly as we do.

To read Tocqueville on technology, then, is to seek a better understanding not only of technology, but of ourselves. As Tocqueville sees it, the search for such self-understanding is the key to intelligent self-government: he once described his purpose in writing *Democracy in America* as to “teach democracy to know itself and thus to guide itself and restrain itself.” Self-knowledge, Tocqueville suggests, can be the mother of moderation, for our delusions about ourselves give license to our excesses. And moderation—the recovery of “the idea of the *middle* that has been so dishonored in our times,” as Tocqueville put it in one draft—is perhaps the thing most needful in our age of runaway technological transformation.

### **Technology and Our Poetic Self-Image**

For Tocqueville, technology is not a set of morally neutral means employed by human beings to control our natural environment. Technology is an existential disposition intrinsically connected to the social conditions of modern democratic peoples in general and Americans in particular. On this view, to be an American democrat is to be a technological romantic. Nothing is so radical or difficult to moderate as a romantic passion, and the Americans Tocqueville observed accepted only frail and minimal restraints on their technophilia. We have long since broken many of those restraints in our quest to live up to our poetic self-image. Understanding the sources of our fascination with the technological dream, and the distance between that dream and technological reality, can help revitalize the sources of self-restraint that remain to us.

That Tocqueville presents much of his commentary on technology in the chapter of *Democracy in America* entitled “Of Some Sources of Poetry among Democratic Nations” already indicates why his analysis of technology has been less well received than his analysis of town government or the tyranny of the majority. What, after all, does technology have to do with poetry? Wouldn’t Tocqueville have done better to offer a systematic analysis of “the material bases of American life,” in the manner of an economic or industrial historian, as Garry Wills suggests?

To see what exactly poetry has to do with technological progress, we must first seek to understand Tocqueville’s account of the nature of poetry and the human need for it. We must then turn to his account of the

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appeal of the poetry of technology to the psychic passions of democratic man. Finally, we must consider his analysis of why democratic peoples would take an argument about the hard facts of economics or industry more seriously as a mode of understanding the question of technology than his own reflections on poetry. By doing so, we can understand something about our typical mode of self-understanding and the distinctive kind of blindness to ourselves to which we are most prone.

In one of his drafts of *Democracy in America*, Tocqueville claims that “it is not sufficiently understood that men cannot do without poetry,” which he defines as “the search for and the portrayal of the ideal.” This Tocquevillian poetry need not take the form of verse; it can also be prose or painting—any medium that helps the human mind present to itself a picture of the ideal. This search for and portrayal of the ideal is, for Tocqueville, an unavoidable part of being human. He explains our need for poetry in the light of the most primary considerations of his anthropology:

I do not need to travel across heaven and earth to find a marvelous subject full of contrast, of grandeur and infinite pettiness, of profound obscurities and singular clarity, capable at the same time of giving birth to pity, admiration, contempt, terror. I have only to consider myself. Man comes out of nothing, passes through time, and goes to disappear forever into the bosom of God. You see him only for a moment wandering at the edge of the two abysses where he gets lost.

If man were completely unaware of himself, he would not be poetic; for what you have no idea about you cannot portray. If he saw himself clearly, his imagination would remain dormant and would have nothing to add to the picture. But man is revealed enough for him to see something of himself, and hidden enough for the rest to disappear into impenetrable shadows, into which he plunges constantly and always in vain, in order finally to understand himself.

As Peter A. Lawler points out in *The Restless Mind* (1993), Tocqueville here follows Pascal in defining man as a kind of monster, at once great and miserable, a “repository of truth” and a “sink of uncertainty and error,” the “glory and garbage of the universe.” Poetry speaks to both the desire for self-understanding and the desire to transcend the limits of finitude and frailty that mysterious, aspiring beings such as ourselves necessarily feel. We long for self-knowledge because we glimpse but do not grasp our own natures; we aspire to greatness because we are aware of both vast capacities and pitiable smallness within us. Poetry shows us an image of ourselves that reflects and refines our distinctly human aspirations.

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While the longing for poetry belongs to human beings as such, the particular poetry that can speak effectively to such longings takes widely different forms in different ages. Aristocratic peoples, accustomed to revering the past and seeing some human beings elevated above others, naturally tend toward the poetry of the perfected human individual and to the cult of heroes and saints. Democratic peoples, who have “a sort of instinctive distaste for what is ancient” and who observe only “very small and very similar” human beings around them, regard this poetry of the heroes of yore with incomprehension or cynicism. As democracy advances and men “los[e] heroes and gods from view,” some poets seek to charm them with scenes of “rivers and mountains.” But Tocqueville argues that, while “democratic peoples can be very amused for a moment by considering nature... they get really excited only by the sight of themselves.”

We want poetry about human things, then, and poetry must depict some form of greatness. But because democratic peoples are skeptical of great individuals, we must turn toward collective human objects for the image of human greatness we seek. The American mind is therefore naturally attracted to the nation and the human race as the truly great human subjects, the subjects fit to be depicted in poetry.

Furthermore, because the American “inhabits a land of wonders” where “everything is constantly stirring” and “each movement seems to be an improvement,” “the idea of the new is intimately linked in his mind to the idea of the better.” Our poetry therefore celebrates “the idea of the progress and of the indefinite perfectibility of the human species.” As Tocqueville puts it earlier in the book, “Nowhere does [the American] see the limit that nature might have put on the efforts of man; in his eyes what is not is what has not yet been attempted.” The transcendence of limits once considered natural and immovable—this is the great story we see unfolding in our time and through our activity. Finally, our democratic poetry will be future-oriented, not backward-looking: “Democratic peoples hardly worry about what has been, but they readily dream about what will be, and their imagination has no limits in this direction.... Democracy, which closes the past to poetry, opens the future.” Our poetry will tell the epic story of the poetic future history of our country and the human race.

This poetic self-image entails looking at non-human nature with an eye toward its transformation: “The American people see themselves marching across this wilderness, draining swamps, straightening rivers, populating empty areas, and subduing nature.” From Manifest Destiny to Silicon Valley, American democracy understands its own story as a quest

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for the perfection of self and society through the overcoming of natural limits that once seemed permanent—both the external limits of non-human nature and the internal limits of the nature of man.

This attitude toward nature is implicitly political and intrinsically extreme. Democratic peoples, Tocqueville remarks later in the book, “imagine an extreme point where liberty and equality meet and merge,” and, in our less sober moments, we believe that technology can help us get there by so thoroughly vanquishing natural scarcity and the limits of human nature that we can eliminate unfreedom and inequality as such. We might be able to improve the human condition so far that what seemed in the past to be permanent facts of human life—ruling and being ruled, wealth and poverty, virtue and vice—can be left behind as we achieve the full realization of our democratic ideal of liberty and equality. That ideal is closer to the Marxist vision of a classless society than many Americans might like to acknowledge.

Utopian though our ultimate aims may be, however, there will be a kind of realism to our technological poetry, as befits a practical people: imagination, in democratic times, “devotes itself almost exclusively to imagining the useful and to representing the real.” We poeticize our useful and practical pursuits: the tedious work involved in searching for the cure for a disease, inventing a labor-saving device, or fixing a bug in a computer program all become nothing less than chapters in the grand epic of the self-salvation of the human race. “This magnificent image of themselves does not only present itself now and then to the imagination of the Americans; you can say that it follows each one of them in the least as well as the principal of his actions, and that it remains always hovering in his mind.” As Tocqueville writes earlier, the “philosophical theory that man is indefinitely perfectible” exercises a “prodigious influence” on “even those who, occupied only with acting and not with thinking, seem to conform their actions to it without knowing it.” Then, in one of the book’s most memorable passages, Tocqueville describes his encounter with an American sailor:

I ask him why the vessels of his country are constituted so as not to last for long, and he answers me without hesitation that the art of navigation makes such rapid progress each day, that the most beautiful ship would soon become nearly useless if it lasted beyond a few years. In these chance words said by a coarse man and in regard to a particular fact, I see the general and systematic idea by which a great people conducts all things.

In Tocqueville's view, the poetry of technology is a kind of consolation Americans give themselves for their relatively dull lives. The need for such consolation is intense because, as he writes, "you cannot imagine anything so small, so colorless, so full of miserable interests, so anti-poetical, in a word, [as] the life of a man in the United States." Our lives are filled with small recurrent cares—mortgage payments, car tune-ups, waiting on hold for the service representative of some enormous corporation. The anxious and prosaic character of our lives has its roots in the very justice of our egalitarian social condition: because no one is born a lord or a serf, everyone must tend constantly to improving or maintaining his social standing. The poor and the middle class work relentlessly so as to rise, the rich also work relentlessly to avoid falling, and every American "would consider himself of bad reputation if he used his life only for living." While in terms of material prosperity, the Americans Tocqueville observed enjoyed "the happiest condition in the world," they were also unbelievably busy, care-ridden, and, as one chapter title suggests, "restless amid their well-being." This restlessness is fertile ground for the especially American kind of poetry. We compensate ourselves for our present anxiousness with the dream of the perfect freedom and contentment of the future, made possible by the technological overcoming of natural limitations and scarcities.

Our poetic self-image as the agents of the technological transformation of the human condition itself can drive us to perform real marvels:

The Americans arrived only yesterday on the land that they inhabit, and they have already overturned the whole natural order to their profit. They have united the Hudson with the Mississippi and connected the Atlantic Ocean with the Gulf of Mexico, across more than five hundred leagues of the continent that separates these two seas. The longest railroads that have been constructed until now are in America.

We are good at solving technical problems, and we know it. But we overestimate the significance of this technical problem-solving capacity. Not content with the obvious truth that our technical know-how has made us, on average, healthier and more prosperous than peoples of the past, we insist that it has also made us happier and better—indeed, that human happiness and virtue are technical problems, problems our rightly-celebrated practical know-how can settle, once and for all. Tocqueville saw how the terminology of commerce in the 1830s was coming to penetrate all aspects of American language, "the first instrument of thought." As our

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technological utopian project advances, as our science enters further into the domain of the human heart and mind, we come to see our lives less in terms of joys, virtues, sins, and miseries and more in terms of chemical imbalances, hormones, good moods, and depressions—material problems susceptible to technological solutions, not moral challenges or existential conditions with which we must learn to live.

### **Romantic Technological Materialism**

Democratic peoples, and Americans in particular, are thus technological romantics, and we tend to view our nation, our species, and even our own souls in technological terms. In this light, West Coast techno-hipsters, iPads, and Xanax are as predictably American as apple pie.

Like all romantics, we can be moralistic about the object of our desire. Because we see technological change as part of an eschatological march of progress toward a future of truly perfected freedom and equality, we tend to see any restraint on that change as a moral evil. Even technological changes that seem inegalitarian or freedom-limiting can be justified as temporary detours on the road to that perfection. Machines that make human workers obsolete, a culture of digital information-sharing that makes massive Internet surveillance possible—all this can be justified as the eggs one must break to make the great omelet of libertarian technodemocracy. To doubt the necessity of the long-term confluence of equality, liberty, and technology is to mark oneself as an undemocratic, illiberal Luddite.

While Tocqueville suggests that we must understand the appeal of technological progress to democratic peoples in terms of poetry and the psychic desires to which poetry speaks, he also sees that we will not accept this account of the place of technology in our society. Our tastes shape the kind of ideas we are willing to entertain, and, for Tocqueville, the dominant taste in a democratic society is “the taste for material enjoyments,” a taste that “soon disposes men to believe that everything is only matter.” Pursuing material goods most of the time, we come to believe that the material and the real are synonymous. As commercial and industrial people, we speak and think in the material terms of those pursuits, and our language itself shows “a kind of tendency to become materialized.” Democratic historians, in Tocqueville’s view, are especially susceptible to a kind of materialist fatalism. In our history, we want facts, statistics, what Tocqueville calls in his notes “the clutter of citations”; we want solid evidence for what we read, stitched together into chains of causal

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necessity. The Marxist historian may reject the businessman's capitalism, but the two agree that what matters most is the material bottom line. We materialists want material explanations of the past and material transformations of the world to improve our condition in the future. Matter, for us, is what matters.

In *Democracy in America*, Tocqueville does not speak this materialistic language. Instead of studying technology in terms of the gross tonnage of ships or rising rates of cotton production, he points to a psychic passion, a poetic dream, as the thing we most need to see if we want to understand technology and what it means to us. And, just as Tocqueville anticipated, Wills, a democratic historian, faults him for ignoring "the material bases" of culture, for only such an analysis, to a certain kind of American mind, gets to the bottom of things.

Democratic peoples are materialist idealists who call themselves realists. Looking backward, we have an unbounded faith in the efficacy of the material as a source of historical explanation; looking forward, we have unlimited hope for technology's ability to reshape the material conditions of human life, so as to eventually lift us above material constraints altogether. Because we tend to focus on material causes, practical problems, and applied science rather than spiritual causes, existential questions, and theoretical science, we believe ourselves realistic, no matter how utopian our hopes might be.

When Tocqueville observed the social effects of the massive technological transformation of his time, the Industrial Revolution, during his visits to England in the 1830s, he encountered a reality significantly less tidy than the materialist-idealist story of progress we usually tell ourselves. In commenting on what he saw, he endorses the view that technological change is in some sense inevitable, but he also insists that there is room for the exercise of human liberty. He sees that the technological change that springs from our virtues can exacerbate our vices, and that the technological transformation of our condition can make human beings more comfortable, more dependent, and more precarious at the same time. And he reminds us that the most important consequence of technological change is not what it does to things but what it does to souls, for good and for ill.

### **The Virtues of the Industrial Revolution**

Some of Tocqueville's critics, such as Daniel Choi, claim that Tocqueville believed the agrarian form of economic and social life characteristic of

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the early nineteenth century to be “eternal,” and was blind to the virtues of the emerging commercial-industrial economy. However, in his *Memoir on Pauperism*, his *Journeys to England and Ireland*, and certain chapters of *Democracy in America*, Tocqueville makes plain that he saw increasing technological sophistication as an unavoidable fact of life for people in democratic times, that he knew the agrarian form of social organization was doomed, and that he was well aware of the virtues of the rising industrial economy.

Writing about America, Tocqueville observes that “nearly all the tastes and habits that arise from equality lead men naturally toward commerce and industry.” Whereas “cultivation of the earth promises nearly certain, but slow results,” commerce and industry can be “risky, but lucrative,” and democratic peoples prefer the latter combination. Writing in his *Memoir on Pauperism*, he sees the same process at work in Europe:

If one carefully considers what has happened in Europe over several centuries, it is certain that proportionately as civilization progressed, a large population displacement occurred. Men left the plow for the [weaver’s] shuttle and the hammer; they moved from the thatched cottage to the factory. In doing so, they were obeying the immutable laws which govern the growth of organized societies. One can no more assign an end to this movement than impose limits on human perfectibility. The limits of both are known only by God.

The general movement of technological advance, then, is a given for Tocqueville, an “immutable law,” almost as the march of democracy is for him a “providential fact.” But Tocqueville does not confuse the inevitable with the good. Just as he accepts increasing democratization as a law of history but encourages his readers to moderate certain consequences of the democratizing process, Tocqueville sees increasing technological sophistication as inevitable but mixed, a combination of virtues to encourage and vices to resist. Since we do not know where the precise border lies between necessity and freedom, clear-sighted assessment of the goods and evils of technological transformation is essential to living both as freely and as fully as we can.

Tocqueville is aware of the goods—political, moral, intellectual, and material—associated with technological change. He sees, first of all, that technological advancement can be a sign of human liberty. In *Democracy in America*, he writes that “I do not know if you can cite a single manufacturing and commercial people, from the Tyrians to the Florentines and to the English, who have not been a free people. So there is a close bond and a

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necessary connection between these two things: liberty and industry.” In his second *Journey to England*, he explains the connection between liberty and industry more fully:

Do you want to test whether a people is given to industry and commerce? Do not sound its ports, or examine the wood from its forests or the produce of its soil. The spirit of trade will get all those things and, without it, they are useless. Examine whether this people’s laws give men the courage to seek prosperity, freedom to follow it up, the sense and habits to find it, and the assurance of reaping the benefit.

In his last work, *The Old Regime and the Revolution* (1856), Tocqueville presents the technological transformation of rivers, the building of canals and roads, and the improvement of ports as signs of the political health of the more free and autonomous parts of pre-revolutionary France. Throughout his career, he consistently confirms the connection between political liberty, commerce, and technological change.

Commercial and industrial progress can be signs not only of political liberty, but also of certain forms of moral health. We see this in Tocqueville’s remark on the “kind of heroism” Americans put into “their way of doing commerce.” American navigators, he reports, sail to China and back, stopping only at their destination, living on salted meat and brackish water for up to ten months at a time, so as to speed up their crossing by a few days and “sell a pound of tea for one penny less than the English merchant.” Americans, of course, would describe their own heroism as self-interest rightly understood, but Tocqueville might see this as a case in which they “prefer to honor their philosophy rather than themselves.” There is something admirable, if slightly absurd, in the lengths to which Americans will go in their commercial competitions.

The dominance of commerce and industry also helps make democratic Americans an orderly, stable, and peace-loving people. Focused on business, with “serious, calculating and positive” minds, they tend to avoid “the great agitations of the heart” that often get in the way of achieving one’s goals. “They put... a great value on gaining for themselves the kind of profound, regular and peaceful affection that makes the charm and the security of life; but they do not readily run after the violent and capricious emotions that disturb and shorten it,” such as the adulterous passions destructive of marriage or the revolutionary passions that overturn governments.

Commerce and industry are thus closely linked to America’s moral virtues, from commercial adventurousness to orderliness and stability in

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domestic and political life. The distinctly American intellectual virtues are also on display in commerce and industry. While Tocqueville bemoans Americans' lack of interest in purely theoretical science, he also notes that the American mind is impressively suited to the applied sciences: "that is where it puts forth its strength and restless activity, and brings forth miracles." He considers the steamboat one such miracle, and notes (*pace* Wills), that it "is changing the face of the world." Unlike aristocrats, who "enclose humanity in advance within impassible limits," democratic human beings, for Tocqueville, can be counted on to use technology to test the limits of nature at every moment. In spite of his reservations about our conquest of nature, Tocqueville appreciates the qualities of mind it displays, and sees that there can be a kind of human greatness behind technological advance.

Finally, Tocqueville observes, in his *Memoir on Pauperism*, that the progress of commerce, industry, and the arts had already in the 1830s massively improved the comfort of human life. On this point, he offers a fascinating comparison of the feudal lords of the twelfth century to his bourgeois contemporaries. However impressive the dukes and earls of old might have been in other respects, in terms of material comfort, their existence was barbarous:

Their life was brilliant, ostentatious, but not comfortable. One ate with one's fingers on silver or engraved steel plates, clothes were lined with ermine and gold, and linen was unknown; the walls of their dwellings dripped with moisture, and they sat in richly sculptured wooden chairs before immense hearths where entire trees were consumed without diffusing sufficient heat around them. I am convinced that there is not a provincial town today whose more fortunate inhabitants do not have more true comforts of life in their homes and do not find it easier to satisfy the thousand needs created by civilization than the proudest medieval baron.

Writing of Americans' material prosperity and their general well-being, he describes them as "the most free and most enlightened men placed in the happiest condition in the world." And, although he did not have the chance to observe the extraordinary progress of medical technology in the twentieth century, this man who in a letter to a friend rated "chronic illnesses" the worst of human evils would surely have appreciated the beneficent power of modern medicine. He sees clearly how advancements in commerce, industry, and technology can improve the material condition of humanity.

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## The Vices of the Industrial Revolution

While Tocqueville recognizes that the Industrial Revolution was inevitable, that it increased our material comfort, and that it displayed many of the admirable aspects of modern democratic societies, he nonetheless denies that all technological innovation is true progress or even that a final accounting of the costs and benefits of such innovation would necessarily show a net gain. For Tocqueville, a technological revolution might destroy precious inheritances that are the hidden preconditions of democratic flourishing. His account of the vices of the Industrial Revolution brings to light the challenges of maintaining what is best about democratic societies in the face of technological change.

Tocqueville first reminds us that non-human nature itself is an inheritance we receive as a gift that we must, in some measure, protect if human life is to flourish. As noted above, Tocqueville indicates that commercially minded peoples are little given to romanticizing nature, and tend to regard it as mere raw material. We can see what Tocqueville had in mind in his depiction of 1830s Manchester from his *Journeys to England and Ireland*:

Thirty or forty factories rise on the tops of the hills.... Their six stories tower up; their huge enclosures give notice from afar of the centralization of industry.... Round them stretches land uncultivated but without the charm of rustic nature.... The soil has been taken away, scratched and torn up in a thousand places.... Heaps of dung, rubble from buildings, putrid, stagnant pools are found here and there among the houses.... On ground below the level of the river and overshadowed on every side by immense workshops, stretches marshy land which widely spaced muddy ditches can neither drain nor cleanse....

The fetid, muddy waters, stained with a thousand colors by the factories they pass, of one of the streams..., wander slowly round this refuge of poverty.... It is the Styx of this new Hades.

Look up and all around this place you will see the huge palaces of industry. You will hear the noise of furnaces, the whistle of steam. These vast structures keep air and light out of the human habitations which they dominate; they envelop them in perpetual fog....

From this foul drain the greatest stream of human industry flows out to fertilize the whole world. From this filthy sewer pure gold flows. Here humanity attains its most complete development and its most brutish; here civilization works its miracles, and civilized man is turned back almost into a savage.

Although Tocqueville appreciates the wealth Manchester creates through its manufacturing, he also sees that manufactured goods are not the only kind of good. There are God- or nature-given goods—earth, air, water, sunlight, silence—we do not make but need to live well. The technological disposition toward nature and the economic incentives of commercial-industrial life make such goods harder to appreciate and more difficult to protect.

The social consequences of the Industrial Revolution worry Tocqueville even more than its environmental effects, for he sees it as endangering the equality of conditions that he considers the defining attribute of democracy. The rise of industrial commerce created new possibilities for almost limitless inequalities of wealth, and increased both felt neediness and human dependency, particularly the dependency of the industrial working class on business owners. It also reshaped the intellectual, moral, and spiritual lives of those engaged in the new forms of work it created, further threatening social equality. While simple differences in wealth do not, as Tocqueville sees it, amount to inequalities of condition, he argues that the combined effects of the Industrial Revolution on both the material and the psychic lives of workers and masters could produce a true and permanent class division within modern societies. Industry and commerce could create both a new kind of aristocrat and a new kind of serf.

In the brief but important chapter of *Democracy in America* entitled “How Aristocracy Could Emerge from Industry,” Tocqueville warns that “if permanent inequality of conditions and aristocracy ever penetrate the world again, you can predict that they will come in through [the door of industry].” Tocqueville thought this chapter of enough significance that he considered inserting it into Volume I, right “after the chapter that considers equality as the universal fact,” so as to “show the exception” and “complete the picture.” In Manchester, Tocqueville observes this new aristocracy not as a disturbing possibility but as an existing fact. The “noisome labyrinth” of Manchester is a city of “palaces and hovels.” The rich live in “fine stone buildings with Corinthian columns,” whereas the poor live in houses so meager Tocqueville calls them “the last refuge a man might find between poverty and death.” In some cases, “twelve to fifteen human beings are crowded pell-mell into each of these damp, repulsive holes.” As Tocqueville laconically comments, “No chairs.”

It is not merely that material poverty persists in the modern age; Tocqueville argues that people can fall into poverty more easily in an industrial society than in an agrarian one. He is well aware that industrialized societies have higher average standards of living than non-industrial

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societies. England's countryside, the "Eden of modern civilization," could boast of "magnificently maintained roads, clean new houses, well-fed cattle roaming rich meadows, strong and healthy farmers, more dazzling wealth than in any country of the world, the most refined and gracious standard of the basic amenities of life to be found anywhere." And yet, some one-sixth of the English population lived "at the expense of public charity," whereas, of the "ignorant and coarse" population of Portugal, according to an estimate he cites, only one twenty-fifth was reduced to this expedient.

In his *Memoir on Pauperism*, Tocqueville offers two explanations for the paradox of a proportionate rise of prosperity and dependency. In the first place, he writes, human needs are plastic and expansive rather than fixed:

Man is born with needs, and he creates needs for himself. The first class belongs to his physical constitution, the second to habit and education.... At the outset men had scarcely anything but natural needs, seeking only to live; but in proportion as life's pleasures have become more numerous, they have become habits. These in turn have become almost as necessary as life itself.... The more prosperous a society is, the more diversified and more durable become the enjoyments of the greatest number, the more they simulate true necessity through habit and imitation. Civilized man is therefore infinitely more exposed to the vicissitudes of destiny than savage man.... Among very civilized peoples, the lack of a multitude of things causes poverty; in the savage state, poverty consists only in not finding something to eat.

Industrialized, technological, affluent societies enjoy an enormous number of amenities people of the past could hardly have imagined. Many of these amenities are relatively inexpensive; Tocqueville notes that one of the paths to wealth in a democracy is finding "better, shorter and more skillful means" of producing goods, to be sold at a lower price to more people. However, once we become accustomed to the enjoyment of such goods—such as a given means of transportation, be it a horse or a Volvo—we experience the lack of that good as true deprivation.

The second reason for the high incidence of pauperism in an affluent society is the unavoidable precariousness of the individual's material well-being in a complex economy. Industrialization, increasing technical sophistication, and globalization increase human dependency together with human affluence and power. This dependency and its attendant precariousness affect everyone in a modern economy, but they were especially acute for the nineteenth-century industrial working class.

The farmer produces basic necessities. The market may be better or worse, but it is almost guaranteed; and if an accidental cause prevents the disposal of agricultural produce, this produce at least gives its harvester something to live on and permits him to wait for better times.

The worker, on the contrary, speculates on secondary needs which a thousand causes can restrict and important events completely eliminate....

The industrial class which gives so much impetus to the well-being of others is thus much more exposed to sudden and irremediable evils. In the total fabric of human societies, I consider the industrial class as having received from God the special and dangerous mission of securing the well-being of all others by its risks and dangers.

The workers Tocqueville observed in Manchester made cotton from the American South into cloth and thread to be sold in Russia, Germany, and Switzerland. Should bad weather or a natural disaster interrupt commerce, should war or diplomatic failures divide these nations from one another, should far-away customers reduce demand or far-away suppliers reduce the available stock of raw materials, the hovels of Manchester felt it. As the Industrial Revolution pulled everyone into the new economic system, it made each person a speculator on the ever-continuing openness and profitability of international trade.

The Industrial Revolution thus made some men very wealthy and others very poor and dependent. Tocqueville's concern regarding the reemergence of aristocracy, however, has moral, intellectual, and even spiritual components in addition to economic ones. Morally, the aristocrats of commerce, he explains, can be marked by a characteristic coldness toward those they employ:

The aristocracy established by trade hardly ever settles amid the industrial population that it directs; its goal is not to govern the latter, but to make use of it....

The territorial aristocracy of past centuries was obligated by law, or believed itself obligated by mores, to come to the aid of those who served it and to relieve their miseries. But the manufacturing aristocracy of today, after impoverishing and brutalizing the men it uses, delivers them in times of crisis to the public charity to be fed.

Without permanent ties between worker and master, the manufacturing aristocracy, as he calls it, can be "one of the harshest [aristocracies] that has appeared on the earth." The very equality of conditions that Tocqueville argues is the defining characteristic of democratic societies can make the

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industrial ruling class self-righteous in its privilege. Industrial aristocrats can easily minimize the role of fortune and maximize the role of merit in the stories they tell themselves about the causes of their own prosperity. While feudal aristocrats could surely be proud and domineering, the role of fortune in their status was comparatively obvious, as French political philosopher Pierre Manent points out in *Tocqueville and the Nature of Democracy*: “The dullest of minds can easily see that going through the trouble to be born is not a very great exploit.” The plainly fortuitous character of the privileges of landed aristocrats added to the weight of the claims their less fortunate neighbors made upon them. For an industrial ruling class, equality of conditions can be an argument to prove that the rich deserve their wealth and the poor deserve their poverty. The mobile, self-righteous aristocracy of industry can be less directly domineering but more distant and inhuman than its old-world counterpart. Insofar as charity, magnanimity, or both are virtues necessary for human flourishing, this is a problem not merely for the workers employed by industrial aristocrats, but for those aristocrats themselves.

But while Tocqueville sees industrial capitalists as cold, he does not think them stupid. In fact, the intellectual consequences of the Industrial Revolution include a sharp division between the classes: “As it becomes clearer that the larger the scale of manufacturing and the greater the capital, the more perfect and the less expensive the products of an industry are, very rich and very enlightened men arise to exploit industries that, until then, have been left to ignorant and poor artisans.” The mind of this new ruling class “expands in proportion as that of the worker contracts. Soon nothing will be needed by the worker except physical strength without intelligence; the master needs knowledge, and almost genius to succeed. The one more and more resembles the administrator of a vast empire, and the other a brute.” In an earlier chapter, Tocqueville writes that “there is nothing that tends more to materialize man and remove from his work even the trace of soul than the great division of labor.” He describes that division as “an element of wealth more than of progress. The art of dividing labor is the art of confiscating the intelligence of the greatest number for the profit of a few.” As he explains in the chapter on industrial aristocracy,

When an artisan devotes himself constantly and solely to the fabrication of a single object, he ends by acquitting himself of this work with a singular dexterity. But he loses, at the same time, the general ability to apply his mind to directing the work. Each day he becomes more skillful

and less industrious, and you can say that in him the man becomes degraded as the worker improves.

What should you expect from a man who has used twenty years of his life making pinheads? And in his case, to what in the future can the powerful human intelligence, which has often stirred the world, be applied, if not to searching for the best way to make pinheads!

The frontier families of the agrarian America Tocqueville observed—who cleared their own land, built their own homes, tended their own farms, and served, with their neighbors, as their own doctors, teachers, sheriffs, and pastors—could be, whatever the defects and difficulties of their lives, impressive, highly capable human beings. By contrast, the workers in the factories of the 1830s exercised and developed only a small range of their human faculties. It is in this sense that the modern commercial industrial economy can be said to brutalize man, leaving a range of the distinctly human capacities uncultivated.

The intellectual degradation begotten by industrialization can go hand-in-hand with spiritual decline. We see this in Tocqueville's description of how the workers of Manchester spend their Sundays: "What room for the life of the spirit can a man have who works for about 12 hours a day every day except Sunday? What a need he must have for rest or lively distraction on Sunday. So in Manchester the workers stay in bed that day, or pass it at the pub." The brutalizing effects of industrial work weigh on not only the men of Manchester, but the women and children, too: "Three-quarters of the workers in [one] factory are women or children: a system fatal for education and dangerous for the women's morals, but which follows naturally from the fact that this work needs little physical strength, so that the work of women and children is enough and costs less than that of men." In *Democracy in America*, Tocqueville famously considers American women to be the key to the success of the American system, and he noted in a draft that "the women seem to me very superior to the men in America." This is in part because their souls are not consumed in commercial pursuits. The Industrial Revolution facilitated the entry of women, and also of children, into the world of wage-earning labor, so that they came to be subjected to the same soul-deadening effects of commercial and industrial life as their husbands and fathers.

The total effect of the economic, moral, intellectual, and spiritual changes wrought by the Industrial Revolution amounts to an unacknowledged political revolution. The worker "is in a continual, narrow and necessary dependence on the [master], and seems born to obey, as the latter

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to command. What is this, if not aristocracy?" The political institutions designed to protect human liberties are powerless against this new form of bondage.

When a worker has in this way consumed a considerable portion of his existence, his thought has stopped forever near the daily object of his labor; his body has contracted certain fixed habits that he is no longer allowed to give up. In a word, he no longer belongs to himself, but to the profession that he chose. Laws and mores have in vain taken care to break down all the barriers around this man and to open for him in all directions a thousand different roads towards fortune; an industrial theory more powerful than mores and laws has bound him to an occupation and often to a place in society that he cannot leave. Amid the universal movement, it has made him immobile.

Just as the peasant of the old world was tied to his land, the worker in the modern industrial economy is tied to his place on the assembly line. Social mobility in a commercial democracy is therefore paradoxical: the equality of conditions awakens entrepreneurial habits of heart and mind that can lead to great innovations and allow some to build commercial-industrial empires. But these empires in turn employ workers in a way that renders them incapable of exploiting the social mobility their masters once used to elevate themselves. Equality of conditions does not automatically perpetuate itself. The eventual emergence of a new aristocracy is not only possible; it is likely.

The rise of a new form of the inequality of conditions from within a democratic society is the largest political consequence of the Industrial Revolution, but not the only one. In Tocqueville's view, the Industrial Revolution also tended to increase public power and centralization. As he notes,

The goods created by industry are rightly regarded by all enlightened nations as particularly appropriate to be taxed. Thus, as industry develops, you see new taxes arise, and these taxes are in general more complicated, more difficult and more exacting to collect than all the others....

Industry usually gathers a multitude of men in the same place; it establishes new and complicated relations among them. It exposes them to great and sudden shifts between abundance and poverty, during which public tranquility is threatened. It can happen finally that these works compromise the health and even the lives of those who profit from them or of those who devote themselves to them. Thus,

the industrial class has more need to be regulated, supervised and restrained than all the other classes, and it is natural that the attributions of the government grow with it.

Compared to agricultural products necessary for subsistence, the goods produced by industry tend to be relative luxuries, and large industries use public infrastructure more extensively than private individuals. For both reasons, large industries are legitimately more subject to taxes, and in this way an industrial economy feeds the tax-collecting needs and structures of government. It brings people into cities and subjects them to industrial crises; it will work them hard enough to threaten health and life if not regulated. Finally, industrial work saps the moral, intellectual, and spiritual capacities for self-restraint in the ways detailed above, and those who do not restrain themselves will have to be restrained by public power. Government will necessarily grow along with industry; it will, Tocqueville says, tax, regulate, cushion, and coerce evermore as industrialization progresses.

While the Industrial Revolution tended to increase the role of government in the lives of ordinary Americans, it tended to reduce the role of ordinary Americans in the life of government. The ever-expanding realm of commerce invades the small domain of leisure that Americans once dedicated to civic life. While Tocqueville is renowned for celebrating the self-governing spirit of the citizens of America's towns and describing a nation in which political power resided with local and state institutions rather than with the federal government, he also saw how the activity of self-government could be transformed by industrialization. As work increases its monopoly over people's lives, they have less time for town meetings or voluntary magistracies. If they participate in politics at all, it is by mere voting, in which "the citizens emerge for a moment from dependency in order to indicate their master, and return to it." The Industrial Revolution threatened to turn American democracy into a plutocratic soft despotism with a democratic veneer.

### **Tocqueville's Self-Aware Liberalism**

Tocqueville is not the only writer to have launched such a critique of the social and political effects of the Industrial Revolution. For thinkers on both the far right and the far left, concerns about the consequences of the technological and economic changes of modernity call liberal democracy itself into question, and Tocqueville shares many of those concerns. As Pierre Manent points out in his *Intellectual History of Liberalism* (1996), Tocqueville not only accepts the critique of modern liberal politics and

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economics that had been articulated by monarchist reactionaries in the aftermath of the French Revolution, he radicalizes that critique. His sympathy with the left's harsh evaluation of the bourgeois regime of the July Monarchy allowed him, in a famous speech in January 1848, to predict the downfall of that regime in an imminent revolution—a revolution that did in fact occur just a month after he spoke.

For all his sympathy with both the radical right and the radical left, however, Tocqueville remains, from the beginning of his political and intellectual career to its end, a staunch defender of liberal democracy. What distinguishes Tocqueville's liberalism from that of many others is that it is a liberalism that knows itself. Tocqueville has heard—Tocqueville has said!—much of the worst that can be said of our regime: its mindless techno-utopianism, its obsession with material well-being, its inequalities, its stultifying effects on the human mind, heart, and spirit. And yet he staunchly and steadfastly champions liberal democracy, in thought and in action, from the beginning of his political and literary career until his death. Tocqueville holds up a mirror to liberal democracy, and the image we see there has plenty of warts. But the hand that holds the mirror plainly belongs to a friend.

When we study Tocqueville's account of our technophilic liberal democracy, we see an image of ourselves as a people in the grip of a dream. Like most dreams, it contains some truth about ourselves: we are right to believe that technological innovation is in some sense the natural consequence of our great and precious political liberty. We are right to believe that such innovation is driven by some impressive habits of heart and mind, exemplified by everyone from Benjamin Franklin to Steve Jobs. We are right to believe that technological change can make improvements to the material condition of our lives—in comfort, in convenience, and, most importantly, in the relief of physical suffering.

The very obviousness of the improvements to the human condition that technophile liberalism brings can tempt us, however, to believe that we can and should follow this ideology to its most radical extremes. Beginning from the true story of progress in material comfort and convenience that flows from political institutions and mores of liberty, we concoct a futuristic fable about the inevitable, eventual technological solution to all the old human problems—that technology can give us a recipe for justice, happiness, and holiness. The poetry that expresses this ideal speaks powerfully to the hopes and longings of our restless minds, so powerfully that it makes the more complex and darker account of technological transformation Tocqueville offers difficult to heed.

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Tocqueville's philosophical history of the Industrial Revolution is a case study in the enduring paradoxes of technological change with which a liberal democratic society must wrestle if it is to continue to be a community friendly to human liberty, dignity, and flourishing. He points out that the technological attitude toward non-human nature can lead us to destroy goods we did not make for ourselves and cannot replace. He draws our attention to the plastic, unlimited character of human desire, which simply expands with each new comfort or titillation we think up. He indicates that increasing human dependency follows in the wake of the technology-driven advance of human power and prosperity. He shows us that there is a permanent human desire to recreate aristocracy, argues that technology can be a means to advancing that desire, and delineates the cold and tenacious features of the new aristocracy that can quietly come to dominate an officially and legally democratic society. He points out, finally, that technological change can invade the soul itself, altering the very patterns of human intellectual, moral, familial, and spiritual life.

These broad considerations constitute Tocqueville's philosophic account of the problem of technology, an account we can still study profitably as we wrestle with the biotech and digital transformations of our own times. To be sure, much has changed since the 1830s. Modern Western democracies have addressed, with some success, many of the problems Tocqueville describes, such as environmental degradation and child labor. Far fewer Americans engage in mind-numbing or dangerous factory work now than in the nineteenth century, although some of this work has merely been outsourced, not eliminated. The notion of a permanent aristocracy of railroad barons seems almost quaint in the age of college-dropout digital billionaires.

For all the differences between our world and his, however, the basic paradoxes and problems of technological transformation persist. The coldness Tocqueville saw in the industrial aristocracy characterizes the digital aristocracy as well, as one sees in the response of an Apple executive to a question about outsourced American jobs: "We don't have an obligation to solve America's problems. Our only obligation is making the best product possible." New technologies still create new wants, some of which become new needs. In our time much more than Tocqueville's, items that were once cutting-edge luxuries, from cars to computers, are experienced not merely as psychic necessities, but as practical requirements for participation in economic life. The ever-increasing dependency of the individual on an ever-more immense and complex economic system advances apace, as Tocqueville foresaw: few Americans in any walk of life

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were left completely untouched by the 2008 financial crisis, no matter how far removed their lives might seem from the world of speculative finance.

As Tocqueville predicted, technological change has been intimately connected to the emergence of class divergences that threaten our basic equality of conditions. Both the left and the right worry about these new class divisions: the left emphasizes enormous disparities in wealth, which are real and troubling; the right emphasizes the collapse of unifying middle-class cultural institutions, such as the family, religion, and the work ethic, which are also real and even more troubling. Both trends are plainly bound up with technological transformation, from the super-fast, super-expensive computers that undergird the wealth of much of our hedge-fund class, to the birth control that has helped sever the connections between sex, procreation, and marriage.

In his time, Tocqueville worried about the intellectual, moral, and spiritual effects of factory work. In ours, we worry about whether “Google is making us stupid” by constantly bathing our minds in that most effective solvent of coherent thought: distraction. While technological simplicity is no guarantee of moral virtue, continuous digital connectedness can make temptation ubiquitous as never before. In the 1830s, Tocqueville saw how commercial and industrial work compromised the spirit of the Sabbath. In the 2010s, our permanent state of connectivity compromises not only the Sabbath, but the very capacity for the quiet contemplation of the mystery of existence that the Sabbath is meant to protect.

Politically, we see that centralized political power has extended swiftly with technological change, just as Tocqueville observed in his time. However, as Peter Lawler points out, we also see another Tocquevillian problem bound up with technology—individualism—constantly outstripping the efforts of the nanny state, creating the novel combination of a government at once dangerously overcommitted and feebly incapable of meeting the needs of the ever-increasing number of the truly isolated among us. Finally, despite endless promises that the Internet is naturally on the side of the little guy, we see that major powers, from Facebook and Google to China and the National Security Agency, are quite adept at exploiting it for profit or surveillance.

Tocqueville’s suggestion for moderating the most disturbing tendencies of technophile liberalism is to not alter our basic political institutions. As Patrick Deneen has argued, it is not the defects in our political institutions that threaten to make liberalism unsustainable, but rather the defects in our “anthropological assumptions,” our unstated beliefs about what and who we are. It is exactly these assumptions about human nature and

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human flourishing that Tocqueville's teaching on technology prompts us to reconsider. In particular, Tocqueville prompts us to question our belief in the efficacy of our ever-increasing power over things to provide for the liberty, happiness, and dignity of human beings.

Tocqueville encourages this revision of our self-understanding by stripping away the poetry of technology. But Tocqueville does not simply disenchant; rather, understanding that human beings must have poetry of one kind or another, he replaces the poetry of technology with a poetry of his own. That poetry celebrates the distinctive excellences of *American* democracy: its combination of the spirit of liberty and the spirit of religion; the natural charms of its democratic families; the vigor of its small-scale political life; its magnanimous openness to genuine, and genuinely liberating, liberal education. He encourages us to nurture those aspects of ourselves that open us to the divine, to the past, and to human others: our love of truth, of God, and of the exercise of that liberty which consists in ruling and being ruled in turn. None of those virtues of American democracy needs much from technology; all are crucially in need of our best attentions right now. To listen to Tocqueville's poetry is to be reminded that American democracy contains within itself the possibility of combining material prosperity with spiritual dignity.

Tocquevillian, self-aware liberalism is neither simply hostile nor simply friendly to technological change. Rather, Tocquevillian liberalism understands technology in the light of a comprehensive yet open account of human freedom, dignity, and flourishing. It is just such an understanding we need to guide, restrain, and direct the unprecedented technological powers we now find in our hands.